

PURPOSE OF PLAN NOTE

THE PURPOSE OF THIS PLAN IS TO CREATE 122 NEW LOTS WHICH WILL BE USED FOR SINGLE FAMILY RESIDENTIAL HOMES. THIS PLAN ALSO PROPOSES STORM WATER MANAGEMENT FACILITIES, AND PUBLIC SEWER AND WATER CONNECTIONS.

STORM WATER NOTES

- 1. ALL STORM WATER MANAGEMENT FACILITIES SHOWN ON THIS PLAN SHALL BE CONSTRUCTED BY THE DEVELOPER IN ACCORDANCE WITH THE DESIGN, CONDITIONS AND SPECIFICATIONS IDENTIFIED ON THIS PLAN. OWNERSHIP AND MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE LANDOWNER, HIS SUCCESSORS AND ASSIGNS, UNLESS SPECIFICALLY OTHERWISE HEREOF.
2. STORM WATER MANAGEMENT FACILITIES SHALL BE MAINTAINED IN GOOD WORKING CONDITION SO THAT THEY ARE PERFORMING THEIR DESIGN FUNCTION, IN A MANNER ACCEPTABLE TO NORTH LEBANON TOWNSHIP, AS REQUIRED BY THE NORTH LEBANON TOWNSHIP STORMWATER MANAGEMENT ORDINANCE. MAINTENANCE SHALL INCLUDE PERFORMING ROUTINE MAINTENANCE AND REPAIR OR REPLACEMENT OF DAMAGED FACILITIES, VEGETATION OR STORM WATER AREAS TO CONDITIONS AS SHOWN ON THE APPROVED PLAN AND IN ACCORDANCE WITH NORTH LEBANON TOWNSHIP STORM WATER MANAGEMENT ORDINANCE.
3. ANY DRAINAGE AND UTILITY EASEMENTS SHOWN ON THE PLAN SHALL BE CONSTRUCTED, OWNED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED PLAN AND SHALL BE REFERENCED WITHIN THE PROPERTY DEED.
4. RUNOFF FROM THE LOT IMPROVEMENTS SHALL BE DIRECTED TO THE STORM WATER MANAGEMENT FACILITIES. STORM WATER RUNOFF FROM EXISTING NATURAL SWALES AND/OR OTHER EXISTING DRAINAGE CONVEYORS SHALL NOT BE DIRECTED TOWARDS OR INTERCEPTED BY THE STORM WATER MANAGEMENT FACILITIES.
5. TOWNSHIP OFFICIALS AND THEIR AGENTS OR EMPLOYEES HAVE THE RIGHT OF ACCESS FOR INSPECTION AND, IN CASES OF CONSTRUCTION DEFAULT, CONSTRUCTION OF THE STORM WATER MANAGEMENT FACILITIES. THE MAINTENANCE OF ALL SUCH FACILITIES SHALL BE THE RESPONSIBILITY OF THE LOT OWNER ON WHICH THE FACILITIES EXIST. NORTH LEBANON TOWNSHIP SHALL NOT BE LIABLE FOR MAINTENANCE OF ANY STORM WATER MANAGEMENT FACILITIES NOT CONSTRUCTED AS SHOWN HEREIN. THE TOWNSHIP ENGINEER SHALL INSPECT ALL PHASES OF DEVELOPMENT OF THE SITE. CONTACT THE TOWNSHIP AT 717-273-7132 FOR INSPECTION OF EACH PHASE OF WORK AT LEAST 3 BUSINESS DAYS PRIOR TO BEGINNING OF EACH PHASE OF WORK. ANY PORTION OF THE WORK WHICH DOES NOT COMPLY WITH THE APPROVED PLAN MUST BE CORRECTED BY THE DEVELOPER.
6. STONE MUST BE MOUNTED TO PROVIDE A MINIMUM OF 2' COVER OVER THE STORM SEWER PIPING WHERE THE PIPE IS SUBJECT TO ANY VEHICLE CROSSINGS DURING CONSTRUCTION.
7. STORMWATER INLETS, PIPES, CULVERTS AND SWALES (CUMULATIVELY REFERRED TO AS DRAINAGE IMPROVEMENTS) CONSTRUCTED ON THIS PLAN HAVE BEEN DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH REQUIREMENTS OF MUNICIPAL ORDINANCES GOVERNING LAND DEVELOPMENT OR IN ACCORDANCE WITH REGULATIONS OF THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION FOR ANY DRAINAGE IMPROVEMENTS TO STATE HIGHWAYS. THESE ORDINANCES AND REGULATIONS SPECULATE SIZES AND CAPACITIES FOR THESE DRAINAGE IMPROVEMENTS, WHICH SIZES AND CAPACITIES MAY HAVE LIMITED ABILITY TO CARRY AND TRANSFER STORMWATER DRAINAGE FROM CERTAIN SEVERE OR INTENSE STORMS. STECKBECK ENGINEERING & SURVEYING, INC. SHALL NOT BE RESPONSIBLE FOR ANY DAMAGE OR INJURY CAUSED BY SURFACE RUN-OFF OR FLOODING FROM STORMS WHICH GENERATE MORE RUNOFF THAN AS REQUIRED TO BE COLLECTED AND CONVEYED BY MUNICIPAL OR PENNDOT REGULATIONS.
8. DRAINAGE EASEMENTS SHALL ALLOW PASSAGE OF STORM WATER IN UNDERGROUND STORM WATER SEWER PIPING AND ASSOCIATED STRUCTURES, AND/OR ALLOW PASSAGE OF STORM WATER OVER THE SURFACE OF THE GROUND AND SHALL ALLOW ACCESS ACROSS THE AREA FOR PURPOSES OF MAINTENANCE OF THE STORM CONVEYANCE SYSTEMS, TREES, SHRUBBERY, AND STRUCTURES WITHIN DRAINAGE EASEMENTS ARE PROHIBITED UNLESS APPROVED BY THE TOWNSHIP.
9. EXISTING AND PROPOSED ROADSIDE GUTTERS OR SWALES SHALL NOT BE OBSTRUCTED BY DRIVEWAYS, FILL OR STRUCTURES.
10. ALL DEEDS FOR THE LOT(S) SHALL INCLUDE A REFERENCE TO THE EASEMENT(S) THAT ARE LOCATED WITHIN THE LOT ALONG WITH ANY RIGHTS AND RESTRICTIONS OF EACH EASEMENT INCLUDING LOT OWNER RESPONSIBILITY FOR OWNERSHIP AND MAINTENANCE OF THE EASEMENT, PIPES AND STRUCTURES WITHIN THE EASEMENT.
11. ALL STORMWATER MAINS AND RELATED STRUCTURES WITHIN THE DEVELOPMENT SHALL BE CONSTRUCTED BY THE DEVELOPER. THE STORM WATER MANAGEMENT FACILITIES (S.W.M.F.) SHALL BE CONSTRUCTED PRIOR TO ANY OTHER CONSTRUCTION ON THE SITE.
12. SEWER MAINS SHALL BE SMOOTH LINED CORRUGATED POLYETHYLENE PIPE (SLC/PP) AND SHALL BE CONCRETE ENCASED WHEN COVER IS LESS THAN 12" TO SUBGRADE.
13. ALL INLETS SHALL BE SUPPLIED WITH BICYCLE SAFE GRATES.
14. STORM WATER MAINS WHICH ARE LOCATED WITHIN A PUBLIC RIGHT-OF WAY SHALL BE OWNED AND MAINTAINED BY NORTH LEBANON TOWNSHIP. STORM SEWER MAINS WHICH ARE LOCATED WITHIN ANY LOTS SHALL BE OWNED AND MAINTAINED BY THE INDIVIDUAL LOT OWNER. TOWNSHIP OFFICIALS, INCLUDING NORTH LEBANON TOWNSHIP SUPERVISORS WILL HAVE THE RIGHT TO INSPECT AND/OR CORRECT ANY DEFICIENCIES IN THE STORM WATER COLLECTION SYSTEM WHICH IS LOCATED ON ANY LOT OR WITHIN AN EASEMENT WITHIN THE DEVELOPMENT AT ANY TIME IF DEEMED NECESSARY.
15. ALL NEW CATCH BASINS LOCATED IN TOWNSHIP RIGHT-OF-WAY MUST BE MARKED WITH A MEDALLION THAT STATES "DON'T POLLUTE, FLOWS TO WATERWAYS". THESE MEDALLIONS WILL BE PROVIDED FROM NORTH LEBANON TOWNSHIP AT THE EXPENSE OF THE DEVELOPER. THE MEDALLION MUST BE CENTERED ON THE TOP OF CURB OF A TYPE "C" INLET OR ON THE BACK OF A TYPE "M" INLET.
16. NO PERSON SHALL MODIFY, REMOVE, FILL, LANDSCAPE OR ALTER STORMWATER MANAGEMENT FACILITIES WHICH MAY HAVE BEEN INSTALLED ON A PROPERTY UNLESS A STORMWATER MANAGEMENT SITE PLAN HAS BEEN APPROVED WHICH AUTHORIZES SUCH MODIFICATIONS, REMOVAL, FILLING, LANDSCAPING OR ALTERATION. NO PERSON SHALL PLACE ANY STRUCTURE, FILL, LANDSCAPING OR VEGETATION INTO A STORMWATER MANAGEMENT FACILITY OR WITHIN A DRAINAGE EASEMENT WHICH WILL LIMIT OR ALTER THE FUNCTIONING OF THE FACILITY OR EASEMENT IN ANY MANNER.
17. ALL ENDWALLS AND FLARED END SECTIONS WITH PIPES OF 12-INCH OR GREATER DIAMETER SHALL BE PROTECTED FROM CHILD ENTRY BY PLACING REMOVABLE STAINLESS-STEEL BARS (AND COMPATIBLE MOUNTING HARDWARE) SPACED FOUR INCHES (4") APART ACROSS THE OPENING.
18. CONTRACTORS AND PROPERTY OWNERS SHALL NOT STORE CONSTRUCTION MATERIALS OR LOCATE TRASH RECEPTACLES (I.E. DUMPSTERS) ON THE PAVED CARTWAY OF STREETS.
19. ALL MUD FROM CONSTRUCTION ACTIVITIES SHALL BE CLEANED BY THE RESPONSIBLE CONTRACTOR OR PROPERTY OWNER AT THE END OF EACH WORKDAY.
20. STORMWATER INLETS OR DRAINAGE PIPES WHICH BECOME FILLED WITH MUD OR DEBRIS FROM CONSTRUCTION ACTIVITIES SHALL BE CLEANED BY THE RESPONSIBLE CONTRACTOR OR PROPERTY OWNER.

BUILDING CODE NOTE

ALL CONSTRUCTION SHALL BE SUBJECT TO THE REQUIREMENTS OF THE PENNSYLVANIA UNIFORM CONSTRUCTION CODE, AS ADOPTED BY THE TOWNSHIP.

NPDES APPROVAL

THE NPDES PERMIT WAS APPROVED ON 08/16/23. THE PERMIT WILL EXPIRE ON 12/07/24. NPDES PERMIT # PAC380267.

FLOODPLAIN NOTE

IN ACCORDANCE WITH THE FLOOD INSURANCE RATE MAP NUMBER 42075C0252E & 42075C0256E, EFFECTIVE DATE JULY 8, 2012, THE ENTIRE SITE IS IN THE ZONE "X" FLOOD CLASSIFICATION.

WETLAND NOTE

REGULATED WETLANDS EXIST ON THE SUBJECT PROPERTY. A WETLAND INVESTIGATION WAS PERFORMED BY BRAD GOCHNAUER OF VORTEX ENVIRONMENTAL ON 09/27/22. SEE EXISTING CONDITIONS PLAN FOR LIMITS OF EXISTING WETLANDS.

INFILTRATION NOTE:

INFILTRATION FACILITIES RELY ON PERMEABLE SOIL CONDITIONS TO DETERMINE AND FUNCTION PROPERLY. AS PART OF THE DESIGN PROCESS, INFILTRATION TESTING WAS CONDUCTED BY A QUALIFIED PROFESSIONAL SOIL SCIENTIST LICENSED GEOLOGIST OR THEIR DESIGNATED REPRESENTATIVE TO ASSURE THAT CONDITIONS WERE CONDUCTIVE TO UTILIZE THIS TYPE OF FACILITY FOR STORMWATER MANAGEMENT CONTROL. EVERY PRECAUTION MUST BE TAKEN BY THE CONTRACTOR DURING THE CONSTRUCTION OF THE INFILTRATION FACILITY TO ASSURE THAT COMPACTION DOES NOT OCCUR WHICH WOULD COMPROMISE THE PERMEABILITY OF THE FLOOR OF THE INFILTRATION FACILITY. AFTER INSTALLATION, ANY INFILTRATION FACILITY DOES NOT FUNCTION AS DESIGNED THE CONTRACTOR WILL BE RESPONSIBLE TO PERFORM REMEDIATION, OUTLINED BY THE QUALIFIED PROFESSIONAL, TO RESTORE BEFORE CONSTRUCTION PERMEABILITY.

AS-BUILT NOTE

THE DEVELOPER SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT PLANS OF ALL SWM BMPs IDENTIFIED IN THE APPROVED SUBDIVISION, LAND DEVELOPMENT OR SWM SITE PLAN AS SPECIFIED IN SECTION 406 OF THE NORTH LEBANON TOWNSHIP STORMWATER MANAGEMENT ORDINANCE.

PRELIMINARY SUBDIVISION & LAND DEVELOPMENT PLANS

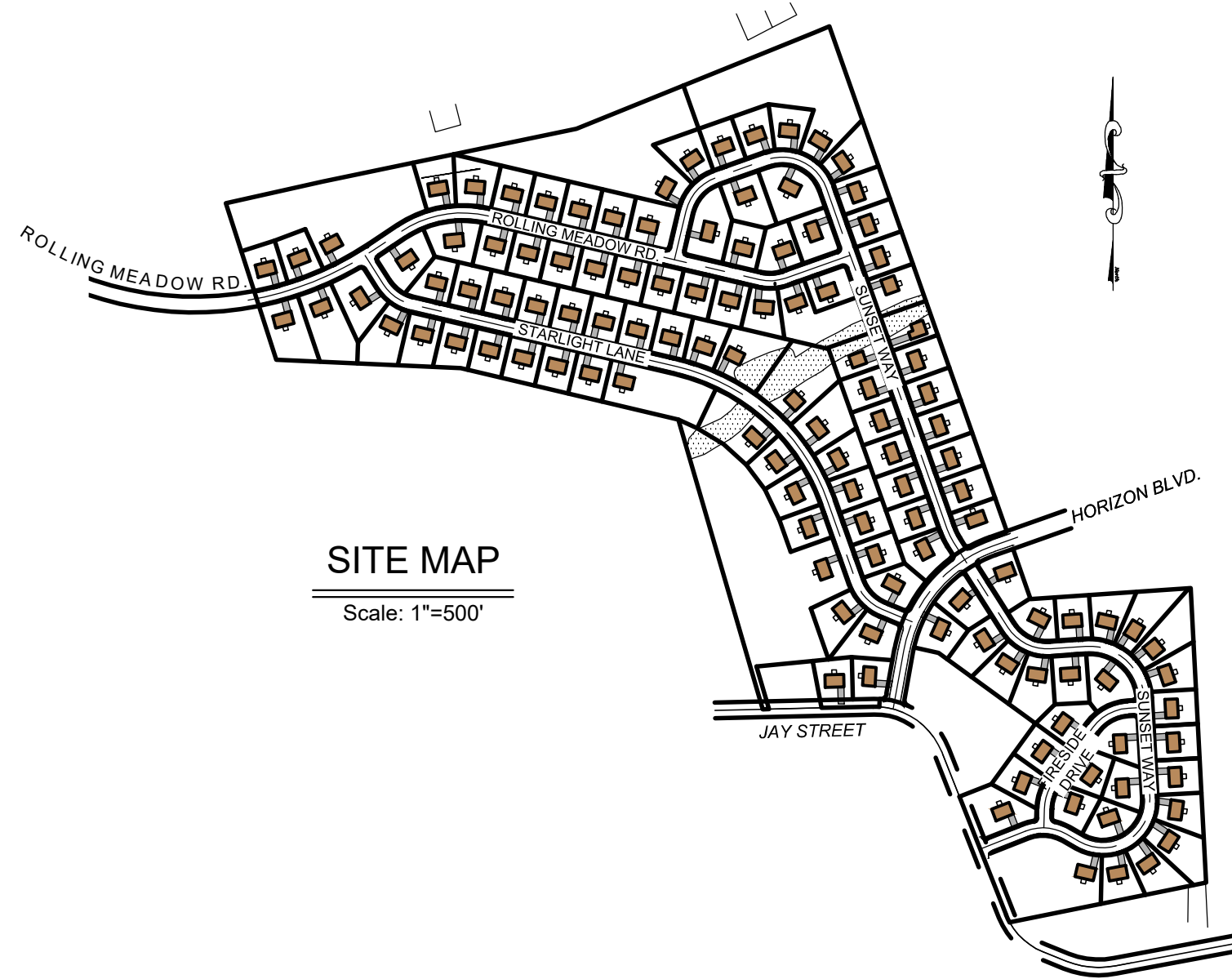
FOR

THE ESTATES AT HEARTHSIDE

OWNER: MT. PLEASANT VENTURES, LLC

LOCATED IN NORTH LEBANON TOWNSHIP LEBANON COUNTY, PENNSYLVANIA NOVEMBER 4, 2022

Table with 3 columns: REVISION, DATE, BY. Contains two entries for revisions per ARRO and LCPD letters.



SITE MAP

Scale: 1"=500'



IMPERVIOUS COVER BREAKDOWN

Table showing proposed streets, sidewalks, driveways, and dwellings with their respective square footages and percentages.

NORTH LEBANON TWP PLANNING COMMISSION

AT A MEETING HELD ON [DATE], 2024, THE PLANNING COMMISSION OF NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PENNSYLVANIA REVIEWED THIS PLAN AND A COPY OF THE REVIEW COMMENTS IS ON FILE IN THE TOWNSHIP OFFICE.

CHAIRPERSON DATE

NORTH LEBANON TOWNSHIP ENGINEER

REVIEWED BY THE NORTH LEBANON TOWNSHIP ENGINEER THIS DAY OF [DATE], 2024.

REVIEWED DATE

OWNERS CERTIFICATION AND ACKNOWLEDGMENT

COMMONWEALTH OF PENNSYLVANIA COUNTY OF [COUNTY]

ON THIS, THE [DATE] DAY OF [MONTH], 2024, BEFORE ME, THE UNDERSIGNED OFFICER, PERSONALLY APPEARED [NAME], BEING [NAME], WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT THE CORPORATION IS THE [NAME] OF THE PROPERTY SHOWN ON THIS PLAN, THAT HE IS AUTHORIZED TO EXECUTE SAID PLAN ON BEHALF OF THE CORPORATION, THAT THE PLAN THEREOF WAS MADE AT HIS DIRECTION, THAT IT ACKNOWLEDGES THE SAME TO BE ITS ACT AND PLAN, THAT IT DESIRES THE SAME TO BE RECORDED, AND THAT IT ACKNOWLEDGES ALL STORMWATER MANAGEMENT FACILITIES ARE PERMANENT FEATURES THAT CAN BE ALTERED OR REMOVED ONLY AFTER APPROVAL OF A REVISED STORMWATER MANAGEMENT SITE PLAN BY THE TOWNSHIP.

Name/Title DATE MT. PLEASANT VENTURES, LLC

LEBANON COUNTY PLANNING DEPARTMENT

REVIEWED DATE

CERTIFICATION OF PLAN ACCURACY

I HEREBY CERTIFY, TO THE BEST OF MY KNOWLEDGE, THE PLAN SHOWN AND DESCRIBED HEREON IS TRUE AND CORRECT TO THE ACCURACY REQUIRED BY THE NORTH LEBANON TOWNSHIP SUBDIVISION AND LAND DEVELOPMENT ORDINANCE AND COMPLIES WITH THE PROVISIONS OF THE NORTH LEBANON TOWNSHIP STORMWATER MANAGEMENT ORDINANCE.

THE PROPOSED STORMWATER MANAGEMENT BMP(S) IS/ARE OR IS/ARE NOT UNDERLAIN BY LIMESTONE.

STEPHEN A. SHERK, P.E. DATE

CERTIFICATION OF SURVEY ACCURACY

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, THE SURVEY SHOWN AND DESCRIBED HEREON IS TRUE AND CORRECT TO THE ACCURACY REQUIRED BY THE NORTH LEBANON TOWNSHIP, NORTH LEBANON TOWNSHIP AND THE CITY OF LEBANON SUBDIVISION AND LAND DEVELOPMENT ORDINANCES.

JASON E. CHERNICH, P.L.S. DATE

NORTH LEBANON TOWNSHIP PLANNING COMMISSION

AT A MEETING HELD ON [DATE], 2024, THE PLANNING COMMISSION OF NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PENNSYLVANIA REVIEWED THIS PLAN AND A COPY OF THE REVIEW COMMENTS IS ON FILE IN THE TOWNSHIP OFFICE.

CHAIRMAN OR VICE CHAIRMAN DATE

NORTH LEBANON TOWNSHIP SUPERVISORS

AT A MEETING HELD ON [DATE], 2024, THE BOARD OF SUPERVISORS OF NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PENNSYLVANIA APPROVED THE FINAL LAND DEVELOPMENT PLAN FOR THE PROPERTY AS SHOWN HEREON. NO OTHER PLAN OR PLANS SHALL BE RECOGNIZED. APPROVAL INCLUDES ALL DOCUMENTATION, INCLUDING THE COMMENTS OR REQUIREMENTS OF OFFICIAL REVIEWING INDIVIDUALS OR AGENCIES. APPROVAL IS BASED ON COMPLIANCE WITH APPLICABLE ORDINANCES, RULES AND REGULATIONS, AND SHALL NOT BE CONSTRUED AS A GUARANTEE TO ANY PERSON OR ORGANIZATION THAT THE DESIGN OR ANY PART OF THE PLAN WILL FUNCTION AS ANTICIPATED UNDER ANY OR ALL CONDITIONS OR SITUATIONS. ADDITIONALLY, THAT BY REVIEW AND/OR APPROVAL OF THIS PLAN, THE TOWNSHIP EXPRESSLY DISCLAIMS THE ASSUMPTION OF LIABILITY ERRORS, OMISSIONS OR MISTAKES IN JUDGEMENT IN THE DESIGN, ENGINEERING, CONSTRUCTION, OR EXPECTED FUNCTION OF THE MATTERS REVIEWED AND/OR APPROVED.

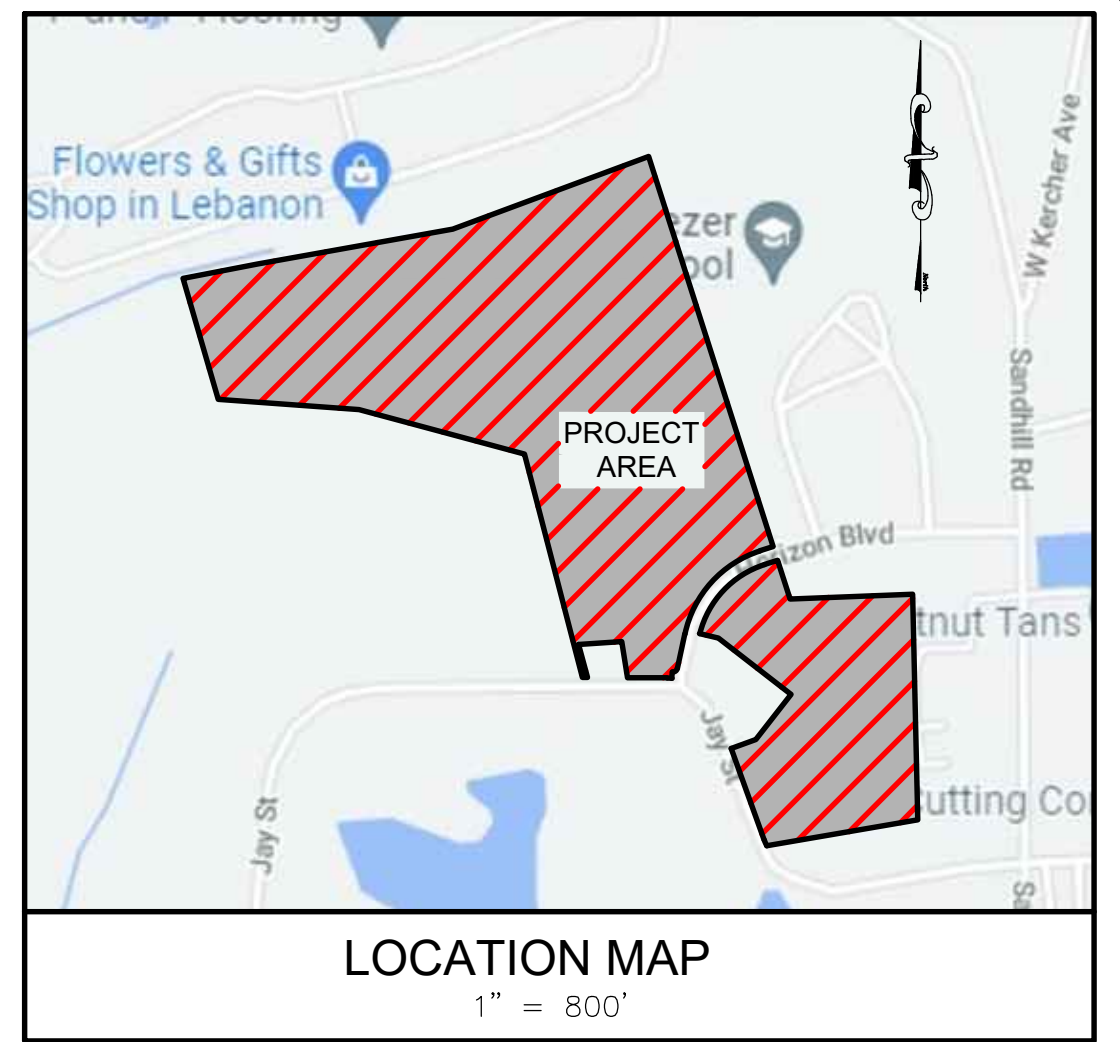
APPROVED DATE

APPROVED DATE

APPROVED DATE

LIST OF DRAWINGS

Drawing List Table with columns: Sheet Number, Sheet Title, and Drawing List Table. Lists 22 sheets including cover sheet, notes, existing conditions, subdivision plan, layout plan, easement plan, grading plan, utility plan, landscaping plan, lighting plan, and sanitary sewer details.



OWNERS

MT. PLEASANT VENTURES, LLC 2021 SOUTH FORGE ROAD PALMYRA, PA 17078 PHONE: 717-821-1129 CONTACT: GERALD MUSSER

SOURCE OF TITLE

CURRENT DEED BOOK: 2250-7984, TR. 1 PIN: 27-233478-380088-0000 PLAN: 69-111 ACRES: 56.40 AC. (2,456,763 S.F.) CURRENT DEED BOOK: 2250-7984, TR. 2 PIN: 27-233478-378807-0000 PLAN: 69-111 ACRES: 16.53 AC. (720,083 S.F.)

ZONING COMPLIANCE CHART

NORTH LEBANON TOWNSHIP: ZONING DISTRICT: "LOW DENSITY RESIDENTIAL (R-1)"

Table comparing required vs proposed zoning metrics: Min. Lot Area, Min. Lot Width, Max. Lot Coverage, Front Yard Setback, Side Yard Setback, Rear Yard Setback, Building Height.

SITE DATA

SITE AREA: 72.93 Acres SITE ZONING: LOW DENSITY RESIDENTIAL (R-1) EXISTING USE: AGRICULTURAL PROPOSED USE: SINGLE FAMILY RESIDENTIAL SOURCE OF WATER: PUBLIC SOURCE OF SEWER: PUBLIC SITE ADDRESS: 1415 JAY STREET STORMWATER MANAGEMENT DISTRICT: LEBANON COUNTY RESIDUAL

PHASING SCHEDULE

PHASE 1 (ENTIRE DEVELOPMENT) 122 PROPOSED DWELLING LOTS

BMP/OUTFALL LOCATIONS table with columns: BMP, LATITUDE, LONGITUDE. Lists basins A through F.

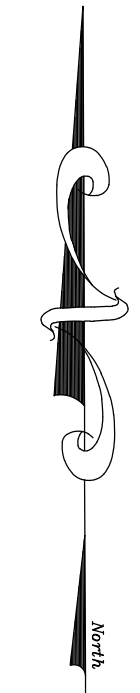
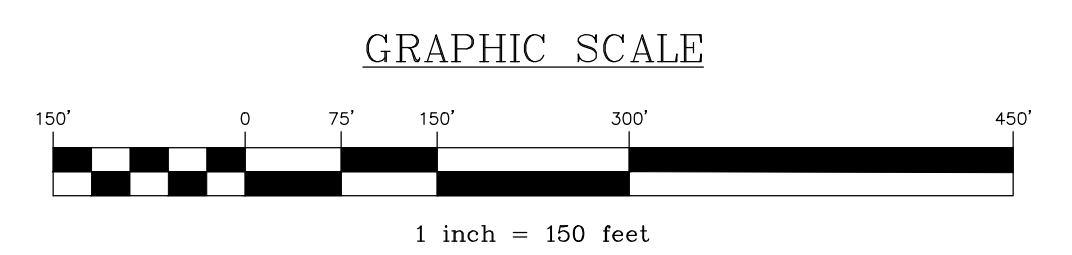
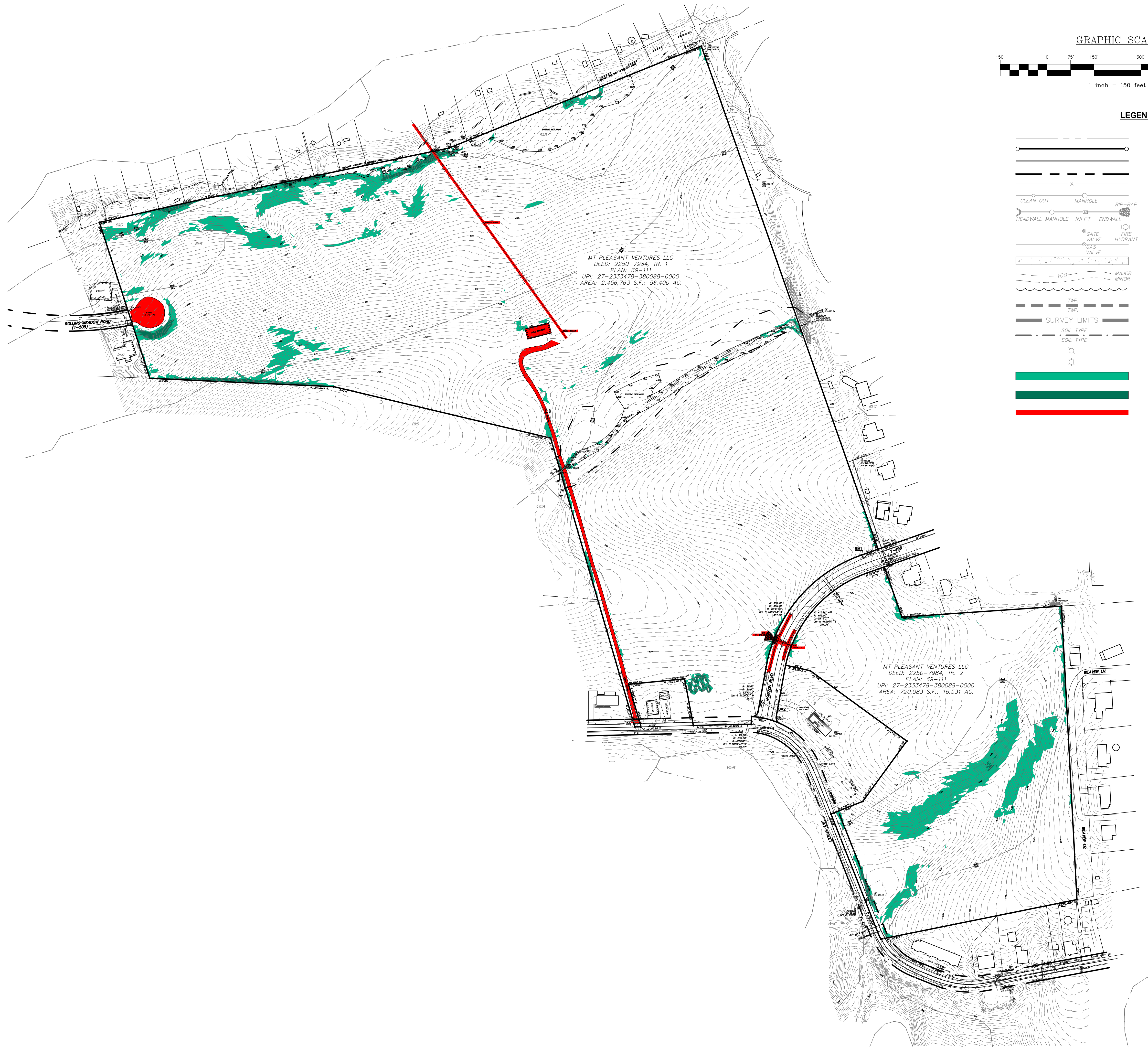


SERIAL NUMBER: 2023402400 (NORTH LEBANON TOWNSHIP) DATE: 12/06/23

STECKBECK ENGINEERING & SURVEYING, INC. HEREBY STATES THAT, PURSUANT TO THE PROVISIONS OF ACT NO. 287 OF 1974 AS AMENDED BY ACT 121 OF 7108 OF THE PENNSYLVANIA GENERAL ASSEMBLY, IT HAS PERFORMED THE FOLLOWING IN PREPARING THESE DRAWINGS: EXAMINATION OF DESIGNATION WORK AT SITES WITHIN THE POLITICAL JURISDICTIONS SHOWN ON THE DRAWINGS:

- (1) PURSUANT TO SECTION 4, CLAUSE (2) OF SAID ACT, STECKBECK ENGINEERING & SURVEYING, INC. REQUESTED THE LINE AND FACILITY INFORMATION PRESCRIBED BY SECTION 2, CLAUSE (4) FROM A ONE CALL SYSTEM NOT LESS THAN TEN NOR MORE THAN NINETY WORKING DAYS BEFORE FINAL DESIGN IS TO BE COMPLETED.
(2) PURSUANT TO SECTION 4, CLAUSE (3) OF SAID ACT, STECKBECK ENGINEERING & SURVEYING, INC. SHOWN UPON THE DRAWING(S) THE POSITION AND TYPE OF EACH FACILITY OWNERS LINE, I HEREBY DERIVED PURSUANT TO REQUEST MADE AS REQUIRED BY SECTION 4, CLAUSE (2), AND THE NAME OF THE FACILITY OWNER, AND THE FACILITY OWNERS DESIGNATED OFFICE ADDRESS AND THE TELEPHONE NUMBER AS SHOWN ON THE LIST REFERRED TO IN SECTION 3.
(3) PURSUANT TO SECTION 4, CLAUSE (4) OF SAID ACT, STECKBECK ENGINEERING & SURVEYING, INC. DOES NOT MAKE ANY REPRESENTATION, WARRANTY, GUARANTEE OR GUARANTEE THAT THE INFORMATION RECEIVED PURSUANT TO SAID REQUEST AND AS REFLECTED ON THESE DRAWINGS IS CORRECT OR ACCURATE, BUT STECKBECK ENGINEERING & SURVEYING, INC. IS REFLECTING SAID INFORMATION ON THESE DRAWINGS ONLY DUE TO THE REQUIREMENTS OF THE SAID ACT 187, DECEMBER 19, 1996.
CONTACT - CAROL ANN BARRON, CITY OF LEBANON, 2200 WEST CHESTNUT ST LEBANON, PA 17046 CONTACT - BOB SENITZ, CONSUMERS ENERGY COMPANY, 1000 WEST CHESTNUT ST LEBANON, PA 17046 CONTACT - CARA WARREN, CARA WARREN ENGINEERING CORP., 1000 WEST CHESTNUT ST LEBANON, PA 17046 CONTACT - OFFICE PERSONNEL, VERIZON PENNSYLVANIA LLC, 1026 HAY ST PITTSBURGH, PA 15221 CONTACT - DEBORAH BARUM, deborah.d.dello@verizon.com

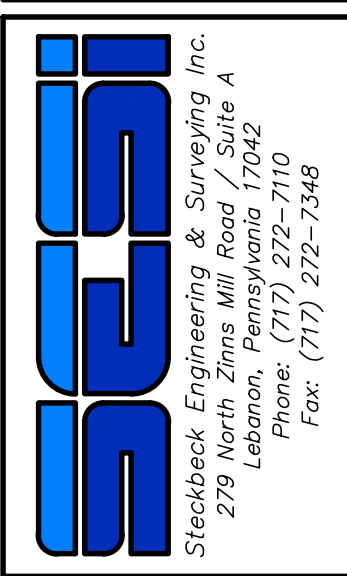




**LEGEND**

- |  |   |
|--|---|
|  | EXISTING ADJOINER LINE                  |
|  | EXISTING BOUNDARY LINE AND CORNERS      |
|  | EXISTING EDGE OF PAVEMENT AND CURB LINE |
|  | EXISTING RIGHT-OF-WAY                   |
|  | EXISTING FENCE                          |
|  | EXISTING SEWER                          |
|  | EXISTING STORMWATER                     |
|  | EXISTING WATERLINE                      |
|  | EXISTING GASLINE                        |
|  | EXISTING SIDEWALK/CONCRETE              |
|  | EXISTING CONTOURS                       |
|  | EXISTING TREELINE                       |
|  | EXISTING TOWNSHIP BOUNDARY              |
|  | LIMITS OF FIELD SURVEY                  |
|  | EXISTING SOILS                          |
|  | EXISTING UTILITY POLE                   |
|  | EXISTING LIGHT POLE                     |
|  | 15%-25% SLOPES                          |
|  | 25%+ SLOPES                             |
|  | DEMO (TO BE REMOVED)                    |

OVERALL EXISTING CONDITIONS PLAN  
 PRELIMINARY SUBDIVISION  
 AND LAND DEVELOPMENT PLANS  
 For  
 THE ESTATES AT HEARTSIDE  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania



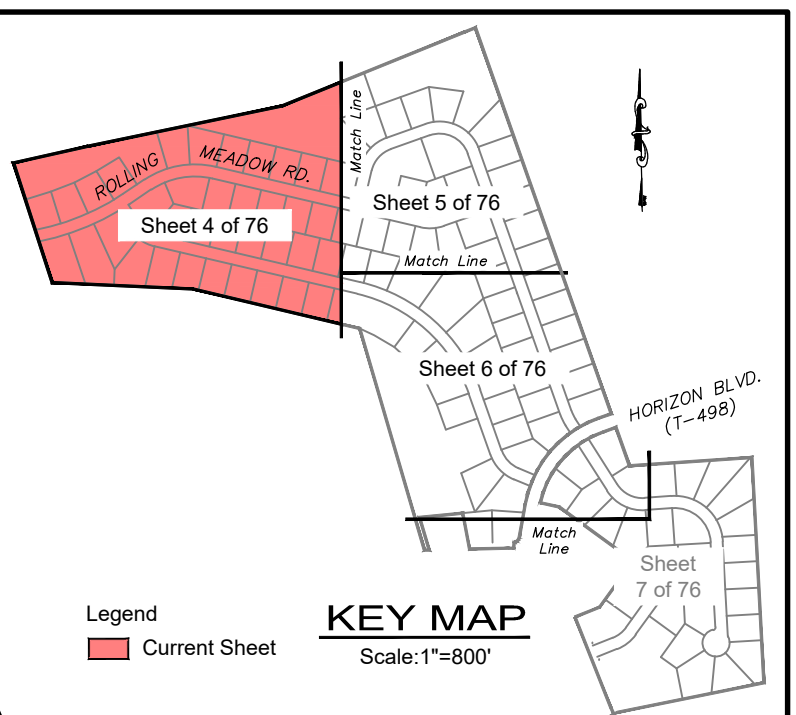
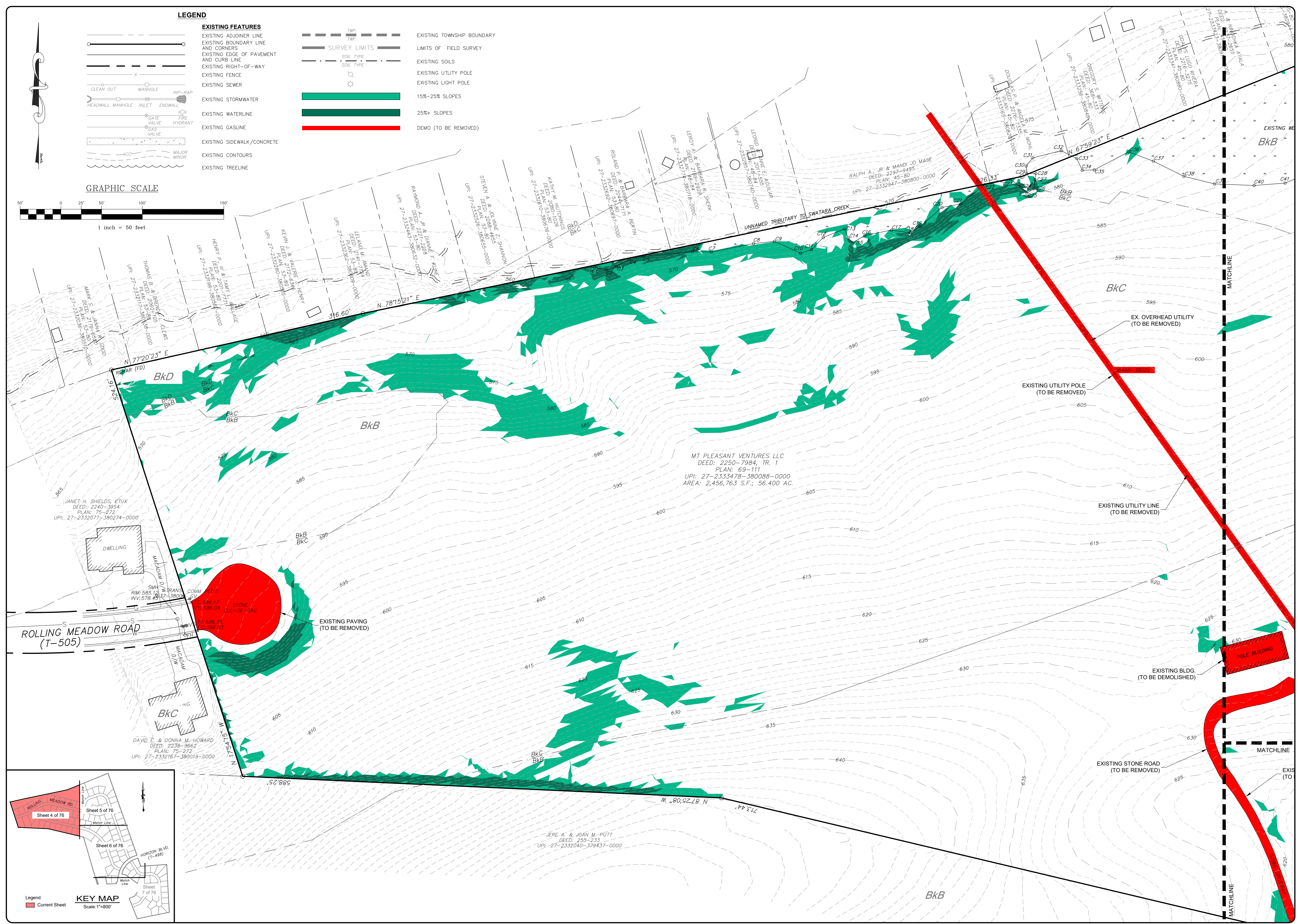
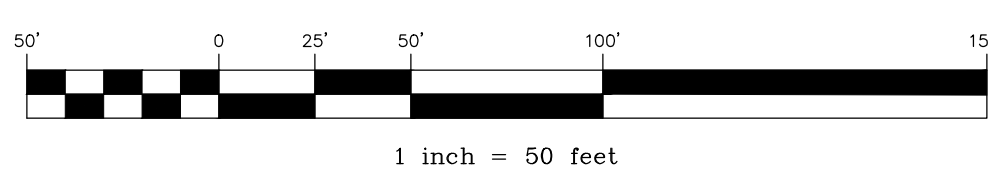
FIELD CREW:	MOD,JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=150'
PROJECT #	784-22-001

REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**LEGEND**

- |  |   |  |                            |
|--|---|--|----------------------------|
|  | <b>EXISTING FEATURES</b>                |  | EXISTING TOWNSHIP BOUNDARY |
|  | EXISTING ADJOINER LINE                  |  | LIMITS OF FIELD SURVEY     |
|  | EXISTING BOUNDARY LINE AND CORNERS      |  | EXISTING SOILS             |
|  | EXISTING EDGE OF PAVEMENT AND CURB LINE |  | EXISTING UTILITY POLE      |
|  | EXISTING RIGHT-OF-WAY                   |  | EXISTING LIGHT POLE        |
|  | EXISTING FENCE                          |  | 15%-25% SLOPES             |
|  | EXISTING SEWER                          |  | 25%+ SLOPES                |
|  | EXISTING STORMWATER                     |  | DEMO (TO BE REMOVED)       |
|  | EXISTING WATERLINE                      |  |                            |
|  | EXISTING GASLINE                        |  |                            |
|  | EXISTING SIDEWALK/CONCRETE              |  |                            |
|  | EXISTING CONTOURS                       |  |                            |
|  | EXISTING TREELINE                       |  |                            |

**GRAPHIC SCALE**



REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

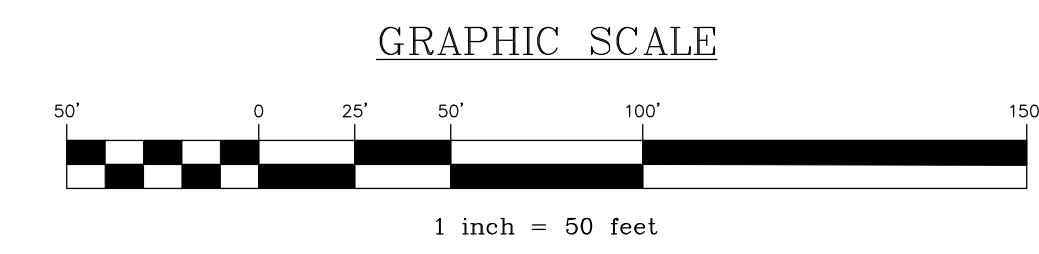
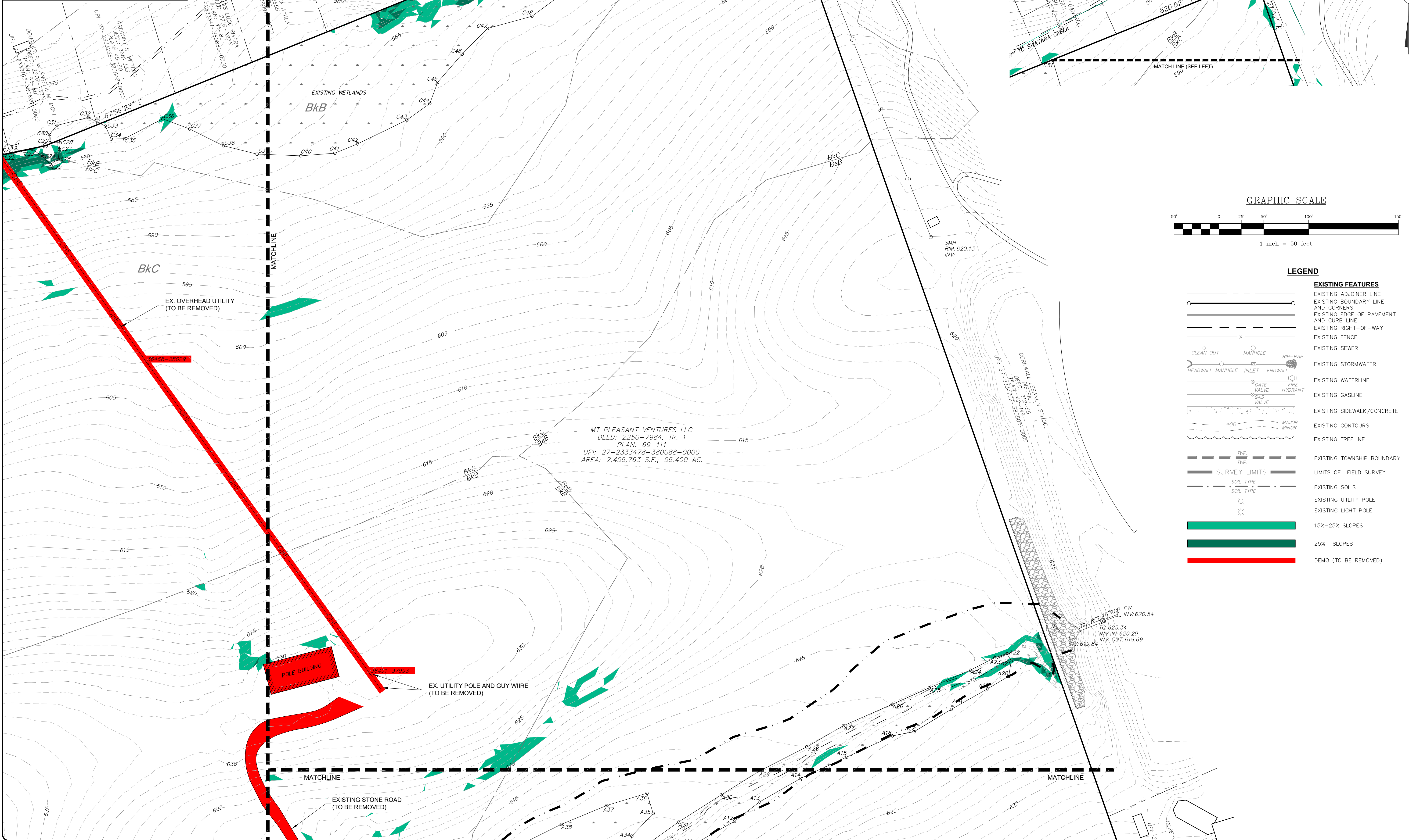
**EXISTING CONDITIONS - DEMOLITION PLAN**  
 For  
**PRELIMINARY SUBDIVISION**  
 THE ESTATES AT HEARTHSE  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

ESI  
 Steadbeck Engineering & Surveying, Inc.  
 279 Lebanon, Pennsylvania 17042  
 Phone: (717) 272-7110  
 Fax: (717) 272-7348

FIELD CREW:	MOD, JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=50'
PROJECT #	784-22-001

**KEY MAP**  
Scale: 1"=800'

Legend  
█ Current Sheet



**LEGEND**

EXISTING FEATURES	EXISTING FEATURES
	EXISTING ADJOINER LINE
	EXISTING BOUNDARY LINE AND CORNERS
	EXISTING EDGE OF PAVEMENT AND CURB LINE
	EXISTING RIGHT-OF-WAY
	EXISTING FENCE
	EXISTING SEWER
	EXISTING STORMWATER
	EXISTING WATERLINE
	EXISTING GASLINE
	EXISTING SIDEWALK/CONCRETE
	EXISTING CONTOURS
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	LIMITS OF FIELD SURVEY
	EXISTING SOILS
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	15%-25% SLOPES
	25%+ SLOPES
	DEMO (TO BE REMOVED)

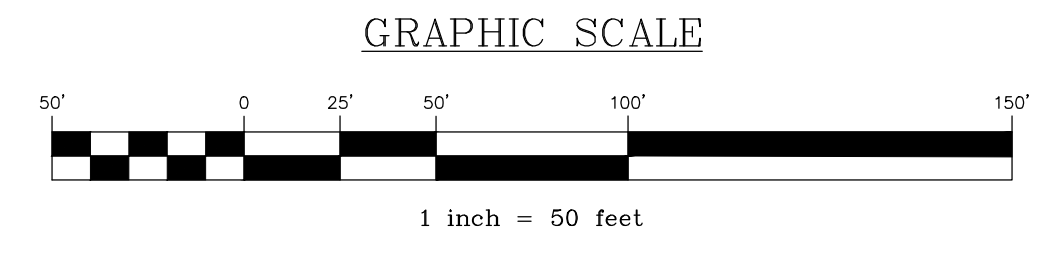
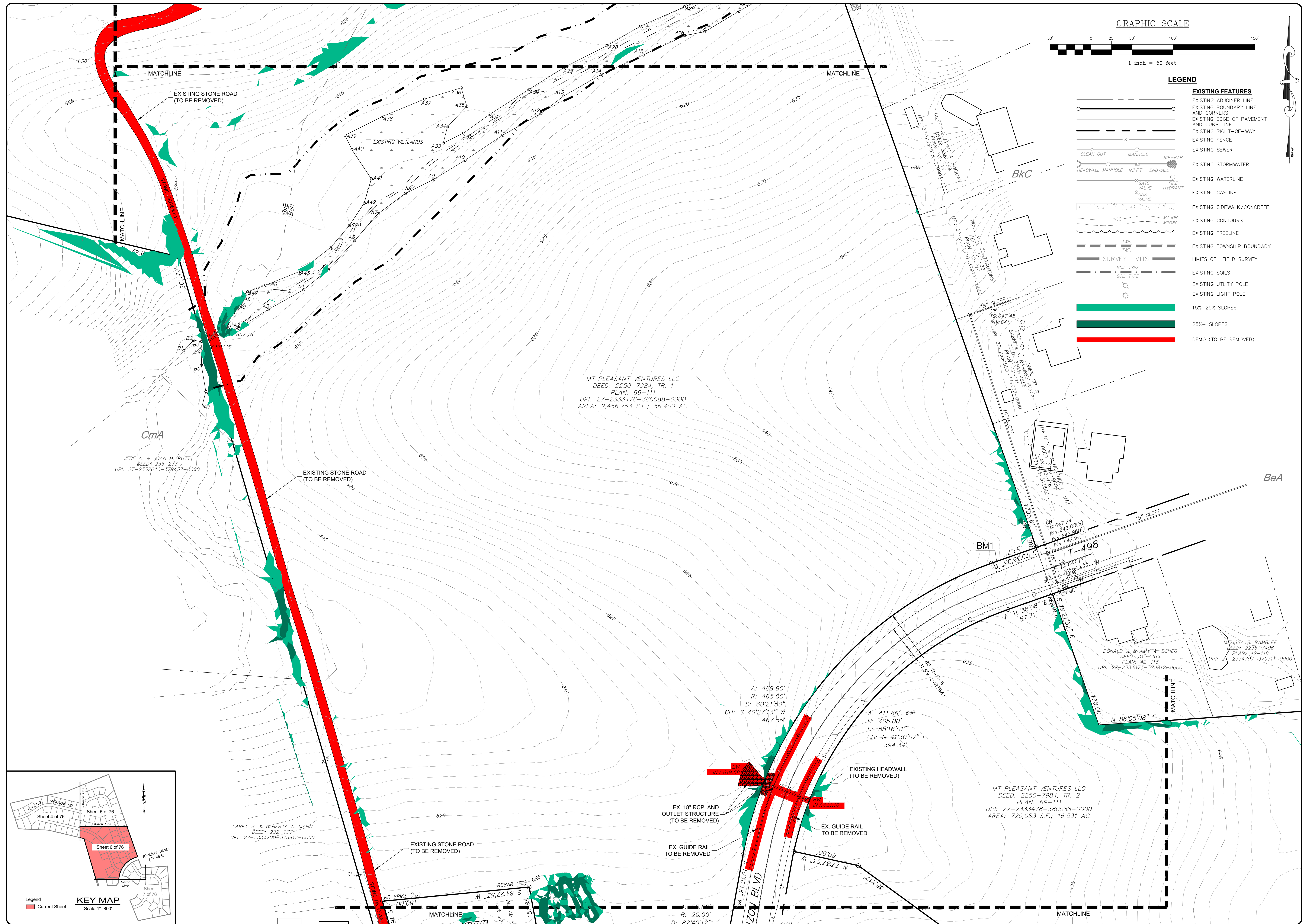
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REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**EXISTING CONDITIONS - DEMOLITION PLAN**

PRELIMINARY SUBDIVISION  
 For  
**THE ESTATES AT HEARTHSTONE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 Lebanon County, Pennsylvania

**Steadbeck Engineering & Surveying Inc.**  
 279 Lebanon, Pennsylvania 17042  
 Phone: (717) 272-7110  
 Fax: (717) 272-7348

FIELD CREW: MOD,JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT #784-22-001



**LEGEND**

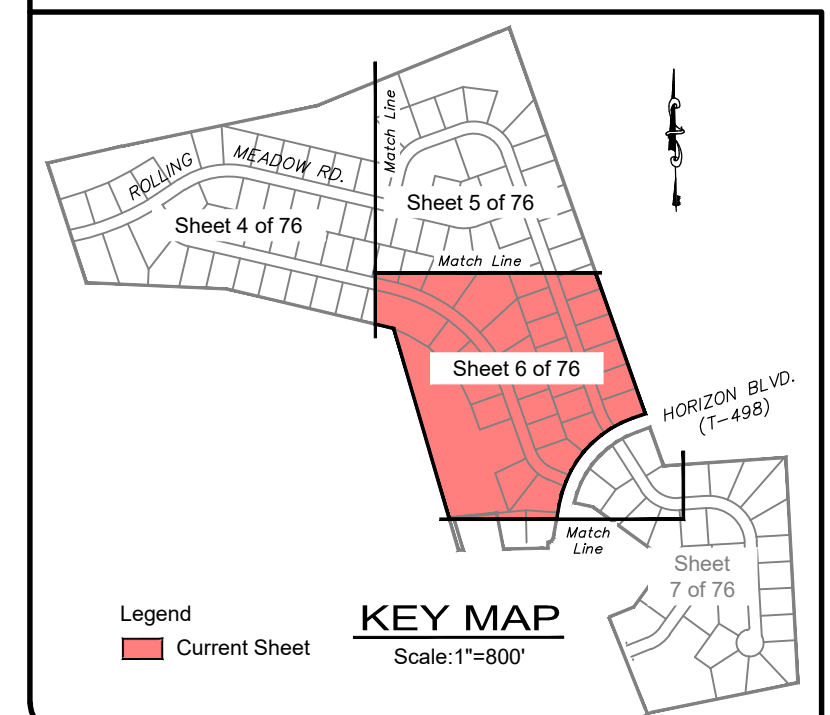
Symbol	Description
---○---	EXISTING ADJOINER LINE
---	EXISTING BOUNDARY LINE AND CORNERS
---	EXISTING EDGE OF PAVEMENT AND CURB LINE
---	EXISTING RIGHT-OF-WAY
---	EXISTING FENCE
---	EXISTING SEWER
---	EXISTING STORMWATER
---	EXISTING WATERLINE
---	EXISTING GASLINE
---	EXISTING SIDEWALK/CONCRETE
---	EXISTING CONTOURS
---	EXISTING TREELINE
---	EXISTING TOWNSHIP BOUNDARY
---	LIMITS OF FIELD SURVEY
---	EXISTING SOILS
---	EXISTING UTILITY POLE
---	EXISTING LIGHT POLE
---	15%-25% SLOPES
---	25%+ SLOPES
---	DEMO (TO BE REMOVED)

REVISION	DATE	BY
REVISED PER ARGO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**EXISTING CONDITIONS - DEMOLITION PLAN**  
 PRELIMINARY SUBDIVISION  
 For  
**THE ESTATES AT HEARTHSE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

**ESI**  
 Steadbeck Engineering & Surveying, Inc.  
 279 Lebanon, Pennsylvania 17042  
 Phone: (717) 272-7110  
 Fax: (717) 272-7348

FIELD CREW:	MOD,JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=50'
PROJECT #	#784-22-001



**CmA**  
 JERE A. & JOAN M. PUTT  
 DEED: 255-233  
 UPI: 27-2332040-378437-0000

**MT PLEASANT VENTURES LLC**  
 DEED: 2250-7984, TR. 1  
 PLAN: 69-111  
 UPI: 27-2333478-380088-0000  
 AREA: 2,456,763 S.F.; 56,400 AC.

**LARRY S. & ALBERTA A. MANN**  
 DEED: 232-827  
 UPI: 27-2333700-378912-0000

**MT PLEASANT VENTURES LLC**  
 DEED: 2250-7984, TR. 2  
 PLAN: 69-111  
 UPI: 27-2333478-380088-0000  
 AREA: 720,083 S.F.; 16,531 AC.

**DONALD J. & AMY W. SCHEG**  
 DEED: 315-462  
 PLAN: 42-116  
 UPI: 27-2334797-379311-0000

**MALISSA S. RAMBLER**  
 DEED: 2236-7406  
 PLAN: 42-116  
 UPI: 27-2334797-379311-0000

A: 489.90'  
 R: 465.00'  
 D: 60°21'50"  
 CH: S 40°27'13" W  
 467.56'

A: 411.86'  
 R: 405.00'  
 D: 58°16'01"  
 CH: N 41°30'07" E  
 394.34'

EX. 18" RCP AND  
 OUTLET STRUCTURE  
 (TO BE REMOVED)

EX. GUIDE RAIL  
 TO BE REMOVED

EXISTING HEADWALL  
 (TO BE REMOVED)

EXISTING STONE ROAD  
 (TO BE REMOVED)

EXISTING STONE ROAD  
 (TO BE REMOVED)

REBAR (FD)  
 RR SPIKE (FD)

M .E.S.L.C.#8 S

R: 20.00'  
 D: 82°40'12"

BM1

T-498

BeA

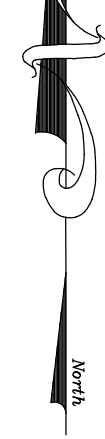
MATCHLINE

MATCHLINE

MATCHLINE

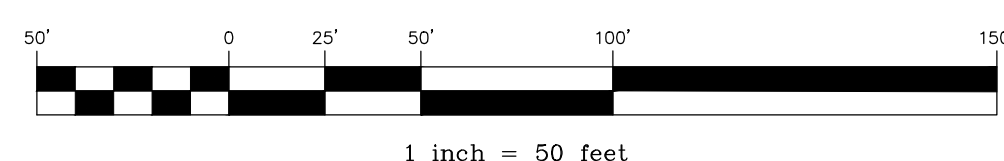
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MATCHLINE



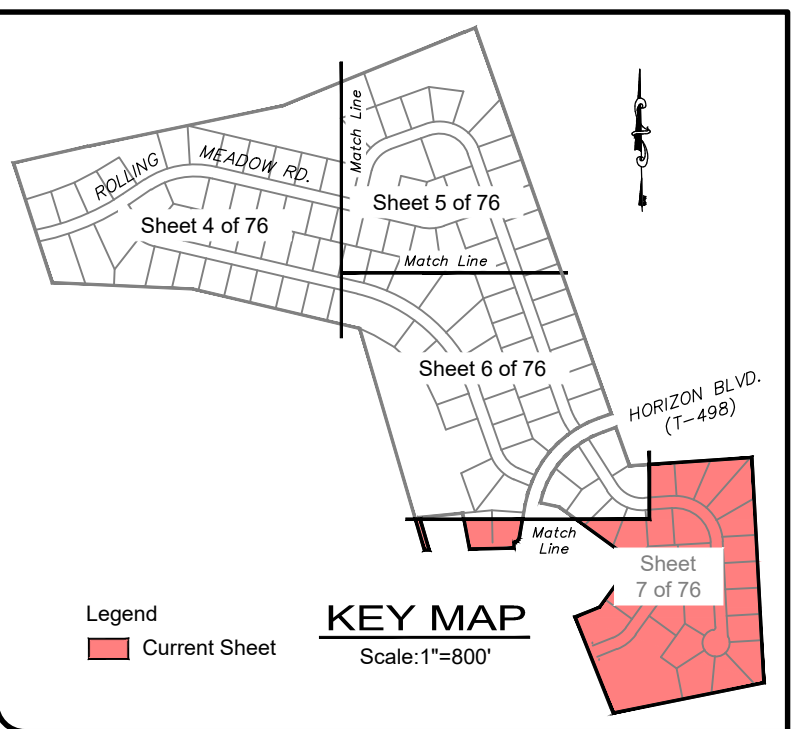


GRAPHIC SCALE



LEGEND

- |  |   |
|--|---|
|  | <b>EXISTING FEATURES</b>                |
|  | EXISTING ADJOINER LINE                  |
|  | EXISTING BOUNDARY LINE AND CORNERS      |
|  | EXISTING EDGE OF PAVEMENT AND CURB LINE |
|  | EXISTING RIGHT-OF-WAY                   |
|  | EXISTING FENCE                          |
|  | EXISTING SEWER                          |
|  | EXISTING STORMWATER                     |
|  | EXISTING WATERLINE                      |
|  | EXISTING GASLINE                        |
|  | EXISTING SIDEWALK/CONCRETE              |
|  | EXISTING CONTOURS                       |
|  | EXISTING TREELINE                       |
|  | EXISTING TOWNSHIP BOUNDARY              |
|  | LIMITS OF FIELD SURVEY                  |
|  | EXISTING SOILS                          |
|  | EXISTING UTILITY POLE                   |
|  | EXISTING LIGHT POLE                     |
|  | 15%-25% SLOPES                          |
|  | 25%+ SLOPES                             |
|  | DEMO (TO BE REMOVED)                    |



REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCDF LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

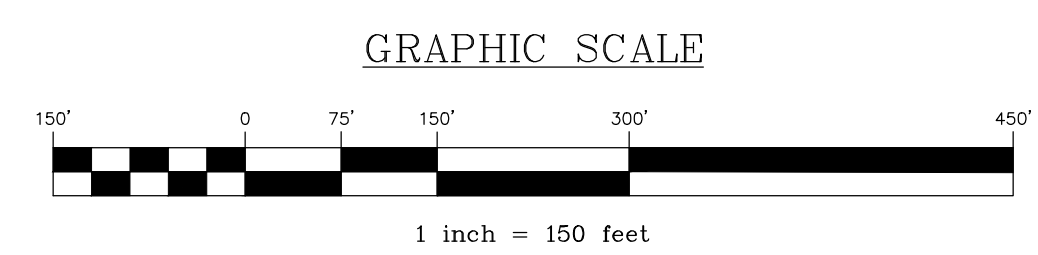
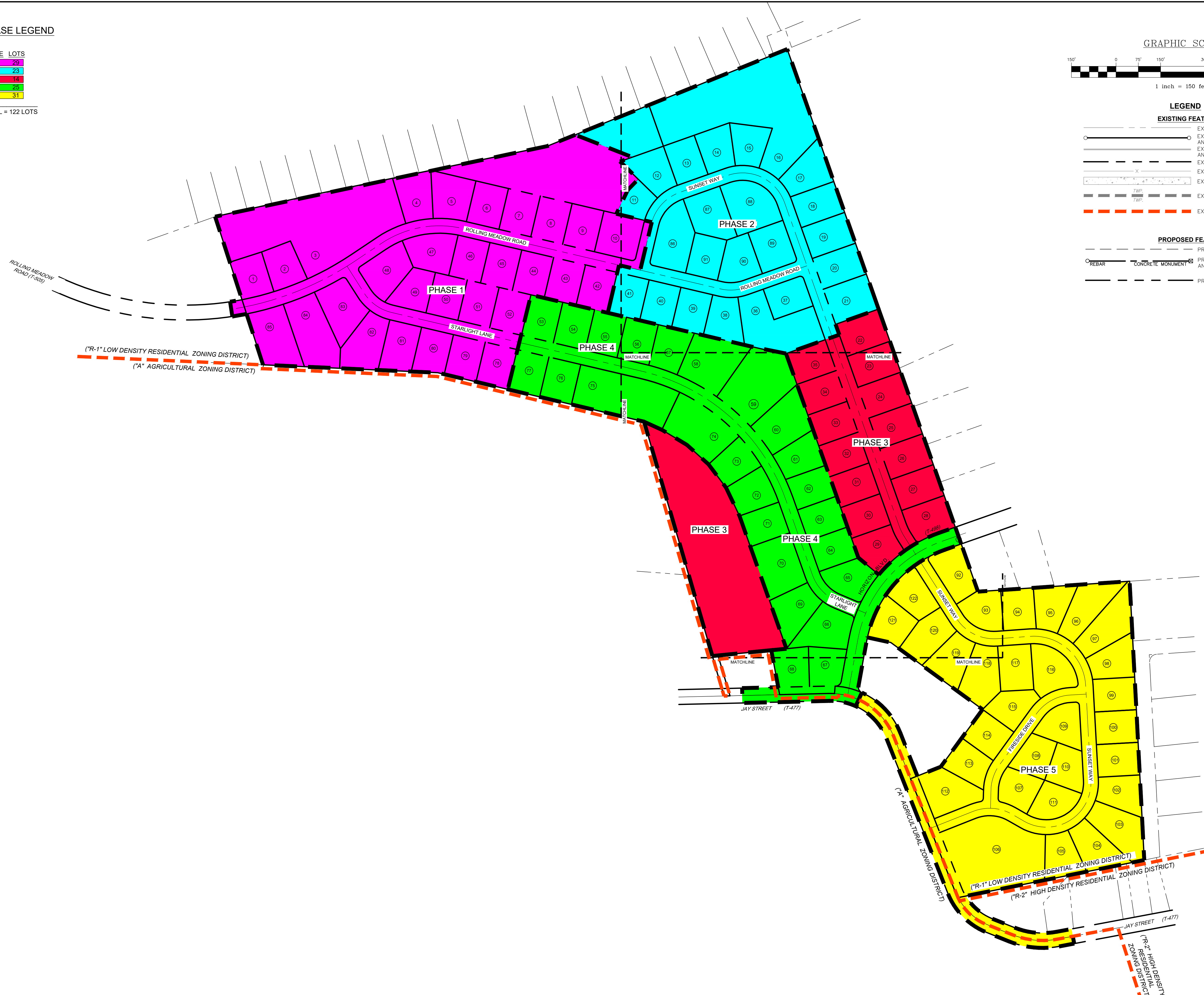
**EXISTING CONDITIONS - DEMOLITION PLAN**  
 PRELIMINARY SUBDIVISION  
 For  
**THE ESTATES AT HEARTSIDE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

FIELD CREW: MOD, JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT # 784-22-001

PHASE LEGEND

PHASE	LOTS
1	29
2	23
3	14
4	25
5	31

TOTAL = 122 LOTS



**LEGEND**

EXISTING FEATURES	
	EXISTING ADJOINER LINE
	EXISTING BOUNDARY LINE AND CORNERS
	EXISTING EDGE OF PAVEMENT AND CURB LINE
	EXISTING RIGHT-OF-WAY
	EXISTING FENCE
	EXISTING SIDEWALK/CONCRETE
	EXISTING TOWNSHIP LINE
	EXISTING ZONING BOUNDARY

PROPOSED FEATURES	
	PROPOSED BUILDING SETBACK
	PROPOSED BOUNDARY LINE AND CORNERS
	PROPOSED RIGHT-OF-WAY

OVERALL SUBDIVISION PLAN  
 PRELIMINARY SUBDIVISION  
 AND LAND DEVELOPMENT PLANS  
 For  
 THE ESTATES AT HEARTSIDE  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

SCS  
 Engineering & Surveying Inc.  
 279 Lebanon, Pennsylvania 17042  
 Phone: (717) 272-7110  
 Fax: (717) 272-7348

FIELD CREW:	MOD, JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=150'
PROJECT #	#784-22-001



**LEGEND**

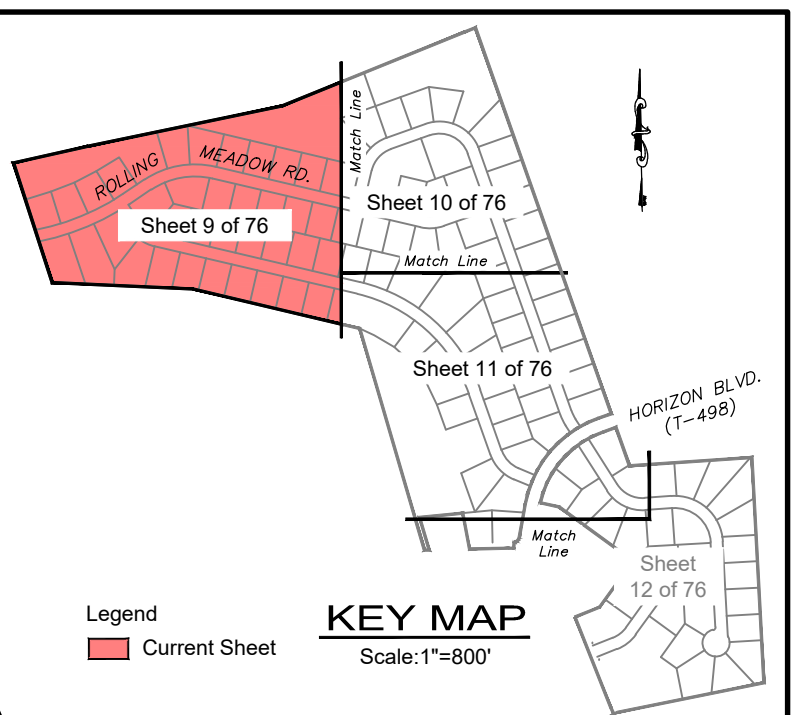
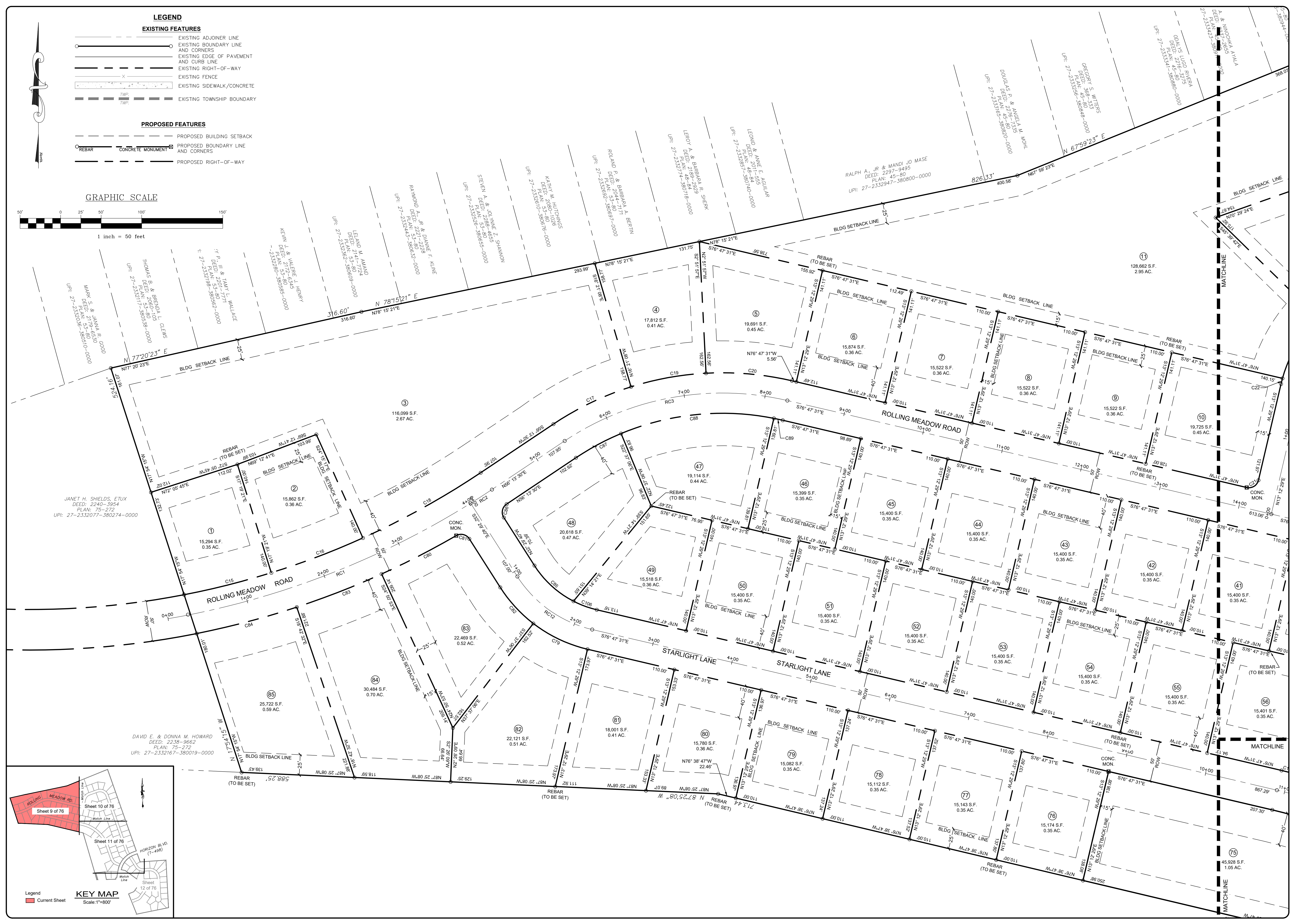
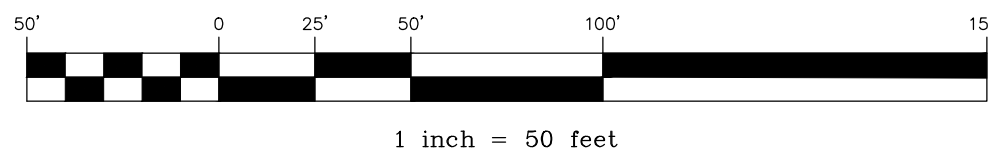
**EXISTING FEATURES**

- EXISTING ADJOINER LINE
- EXISTING BOUNDARY LINE AND CORNERS
- EXISTING EDGE OF PAVEMENT AND CURB LINE
- EXISTING RIGHT-OF-WAY
- EXISTING FENCE
- EXISTING SIDEWALK/CONCRETE
- EXISTING TOWNSHIP BOUNDARY

**PROPOSED FEATURES**

- PROPOSED BUILDING SETBACK
- PROPOSED BOUNDARY LINE AND CORNERS
- PROPOSED RIGHT-OF-WAY

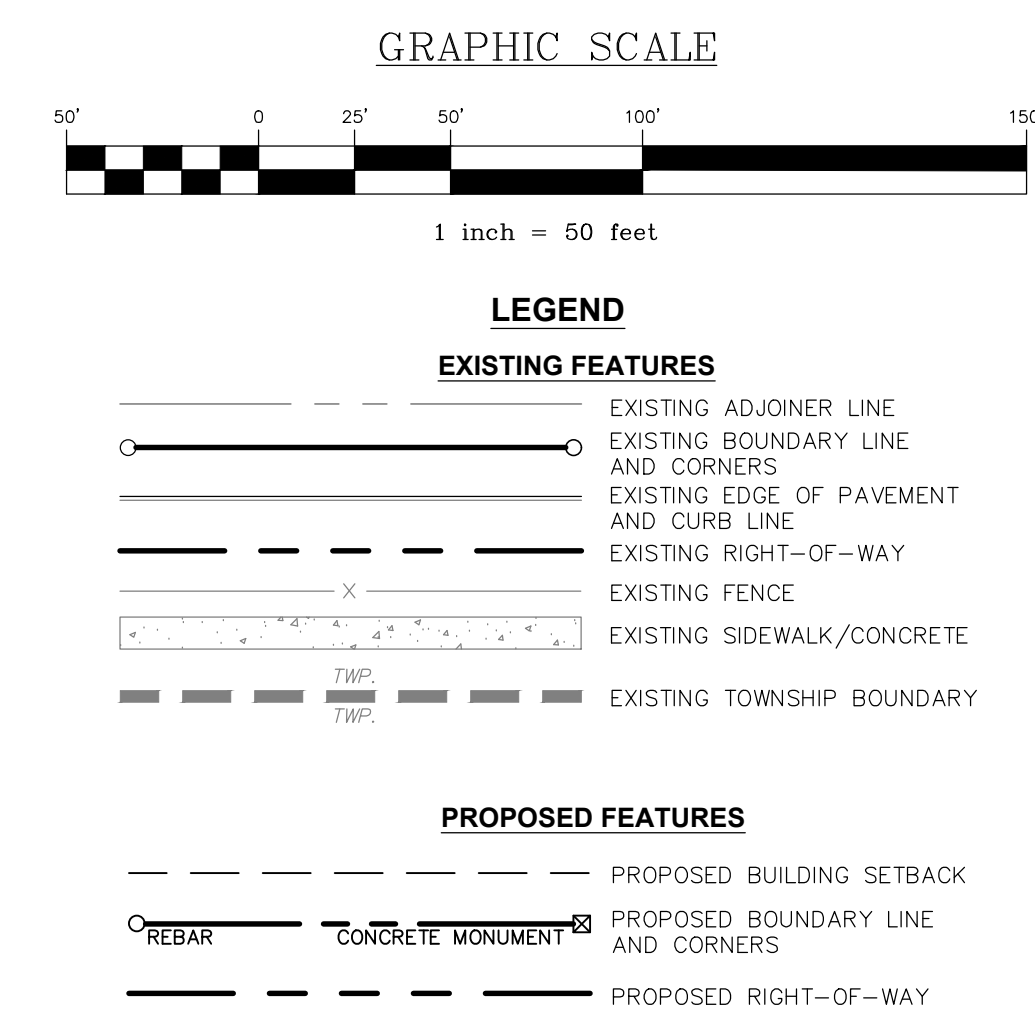
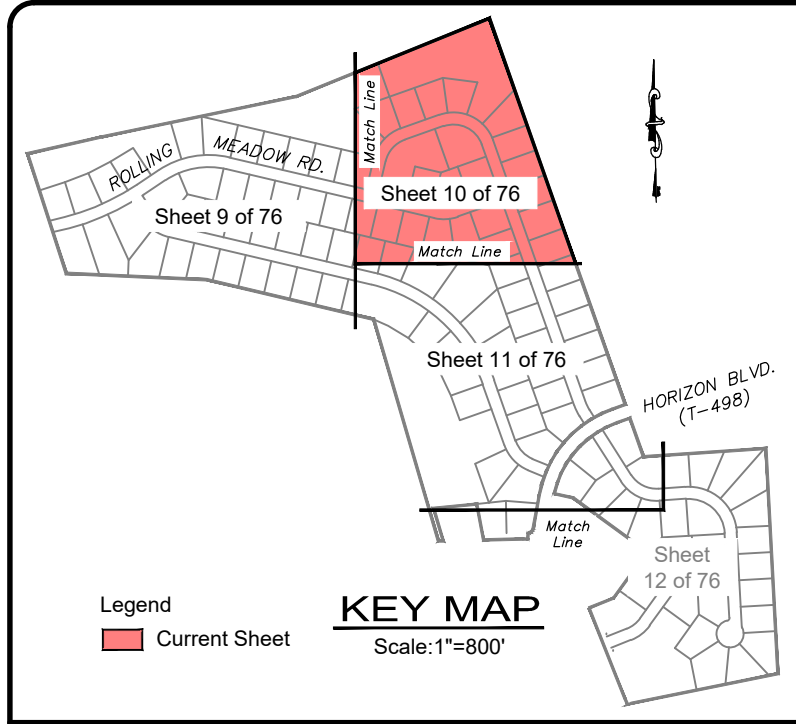
**GRAPHIC SCALE**



REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

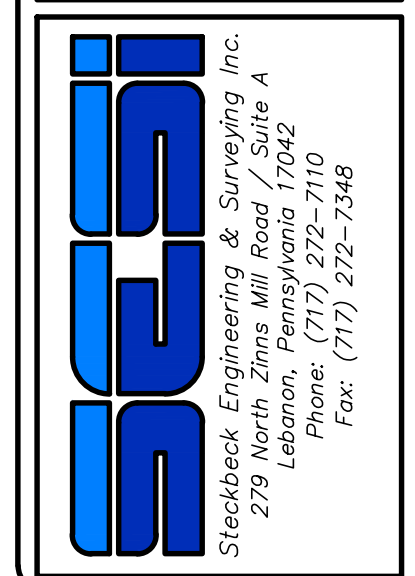
**SUBDIVISION PLAN**  
 For  
**PRELIMINARY SUBDIVISION**  
 THE ESTATES AT HEARTSIDE  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

FIELD CREW: MOD/JEC  
 BASE MAP: JEC  
 DRAWN: CDS  
 DESIGN: CDS  
 CHECKED: SAS  
 DATE: 11/4/22  
 SCALE: 1"=50'  
 PROJECT # 784-22-001

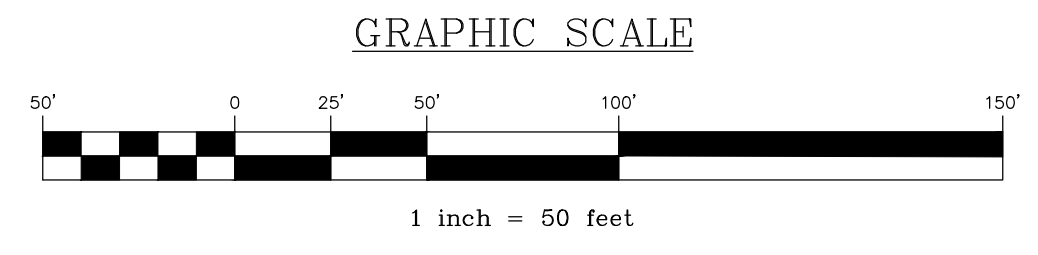
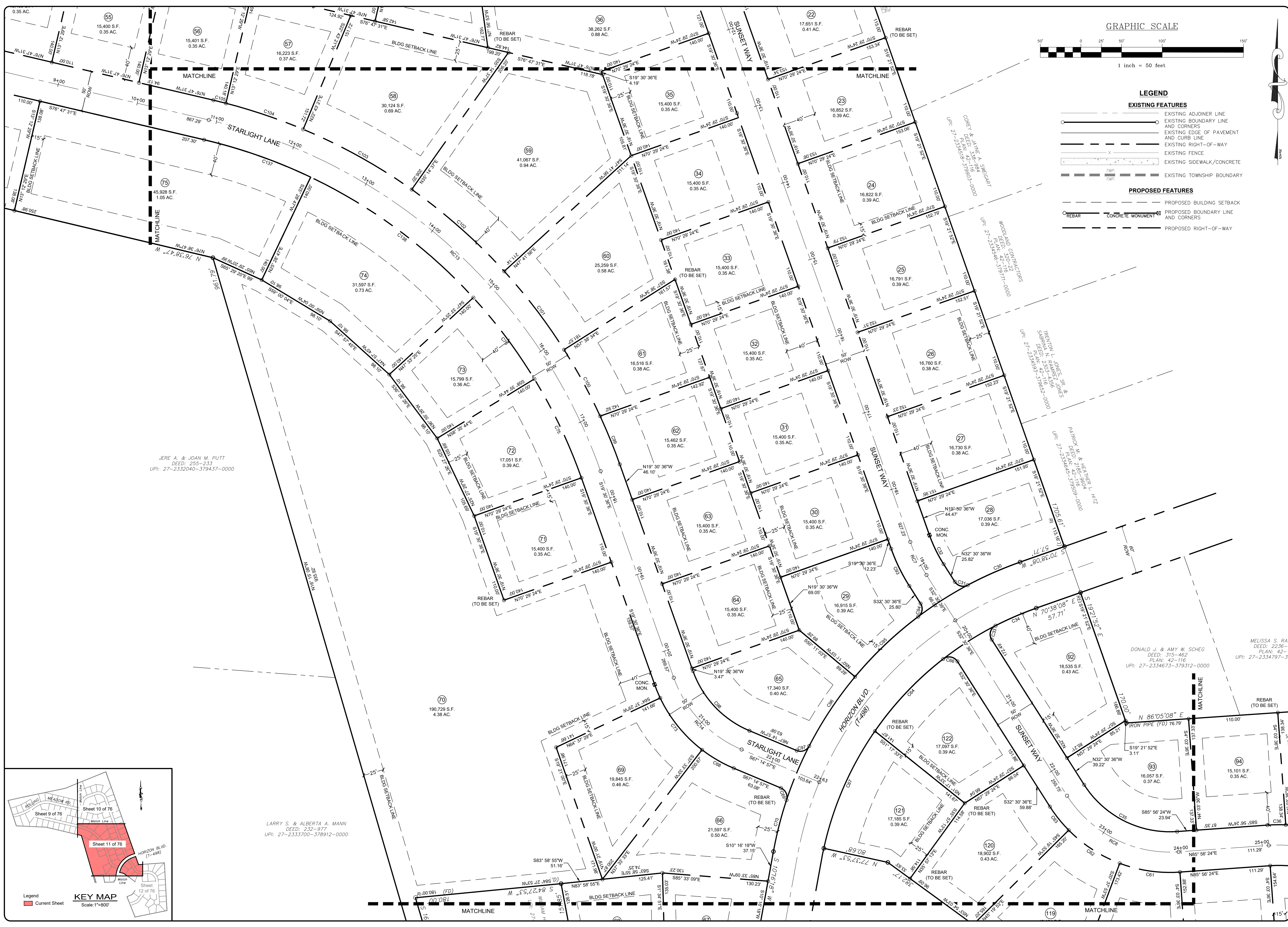


REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCDP LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**SUBDIVISION PLAN**  
**PRELIMINARY SUBDIVISION**  
 For  
**THE ESTATES AT HEARTSIDE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON COUNTY, Pennsylvania



FIELD CREW: MOD/JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT # 784-22-001



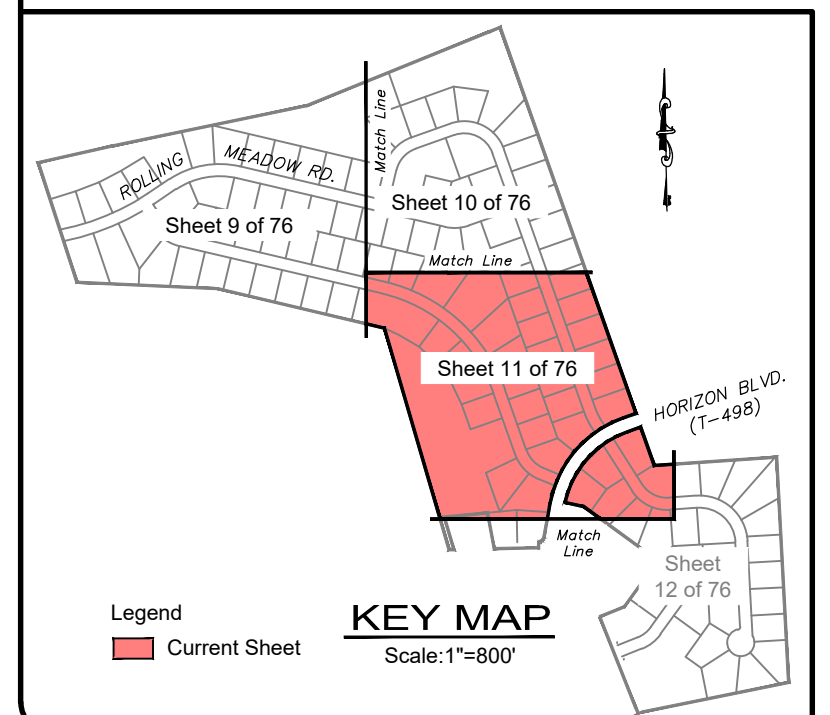
- LEGEND**
- EXISTING FEATURES**
- EXISTING ADJOINER LINE
  - EXISTING BOUNDARY LINE AND CORNERS
  - EXISTING EDGE OF PAVEMENT AND CURB LINE
  - EXISTING RIGHT-OF-WAY
  - EXISTING FENCE
  - EXISTING SIDEWALK/CONCRETE
  - EXISTING TOWNSHIP BOUNDARY
- PROPOSED FEATURES**
- PROPOSED BUILDING SETBACK
  - PROPOSED BOUNDARY LINE AND CORNERS
  - PROPOSED RIGHT-OF-WAY

JERE A. & JOAN M. PUTT  
 DEED: 255-233  
 UPI: 27-2332040-379437-0000

LARRY S. & ALBERTA A. MANN  
 DEED: 232-977  
 UPI: 27-2333700-378912-0000

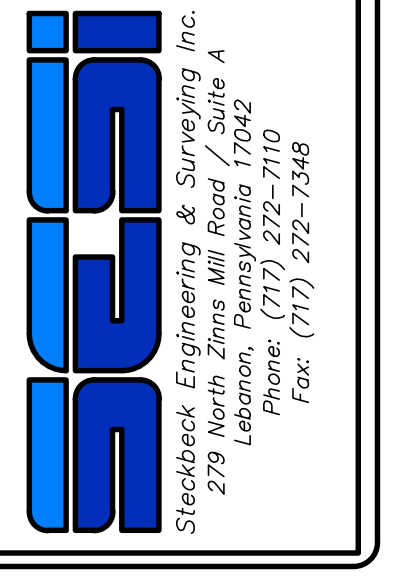
DONALD J. & AMY W. SCHEG  
 DEED: 315-462  
 PLAN: 42-116  
 UPI: 27-2334673-379312-0000

MELISSA S. RAY  
 DEED: 2236-  
 PLAN: 42-1  
 UPI: 27-2334797-37

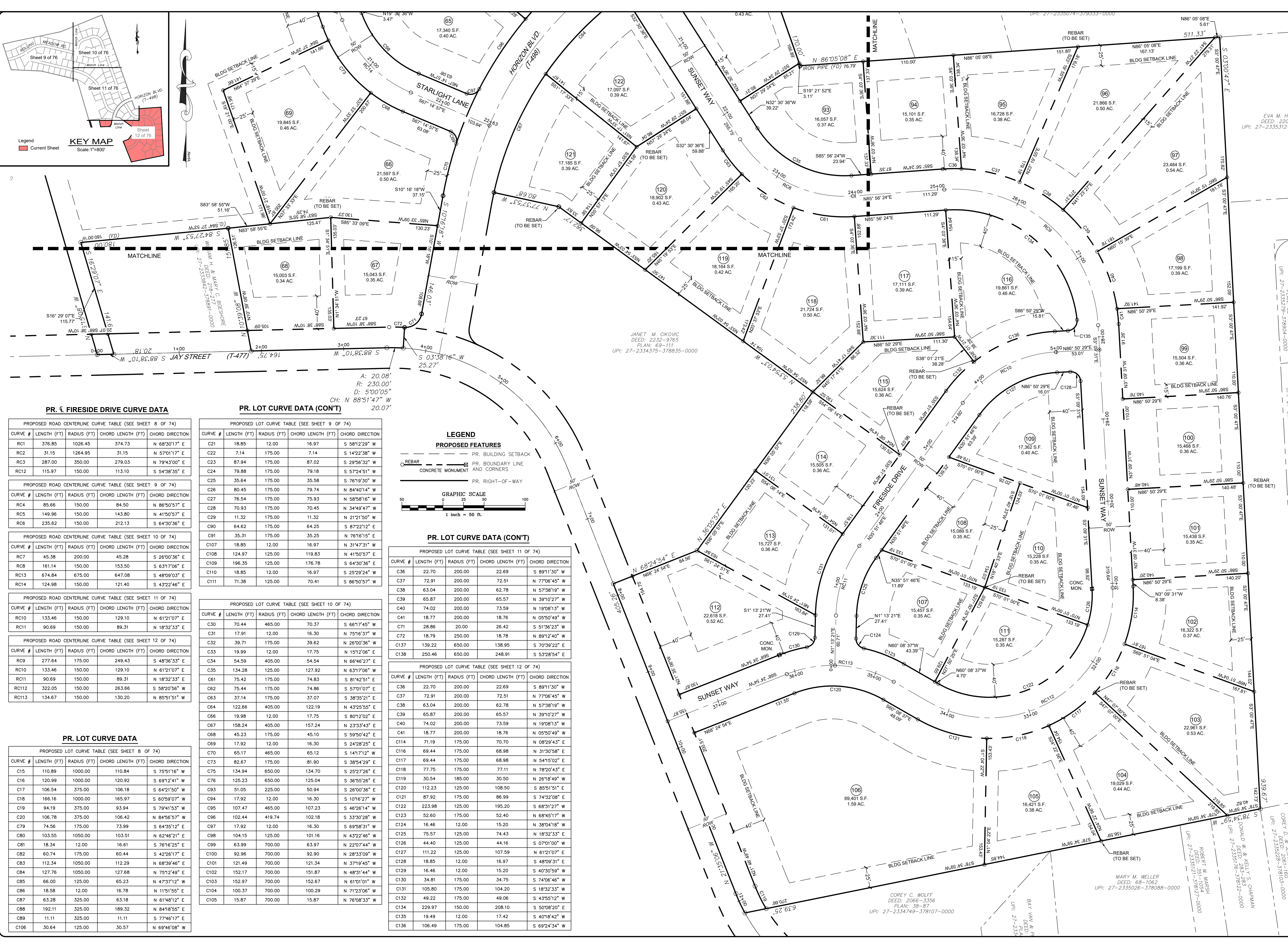
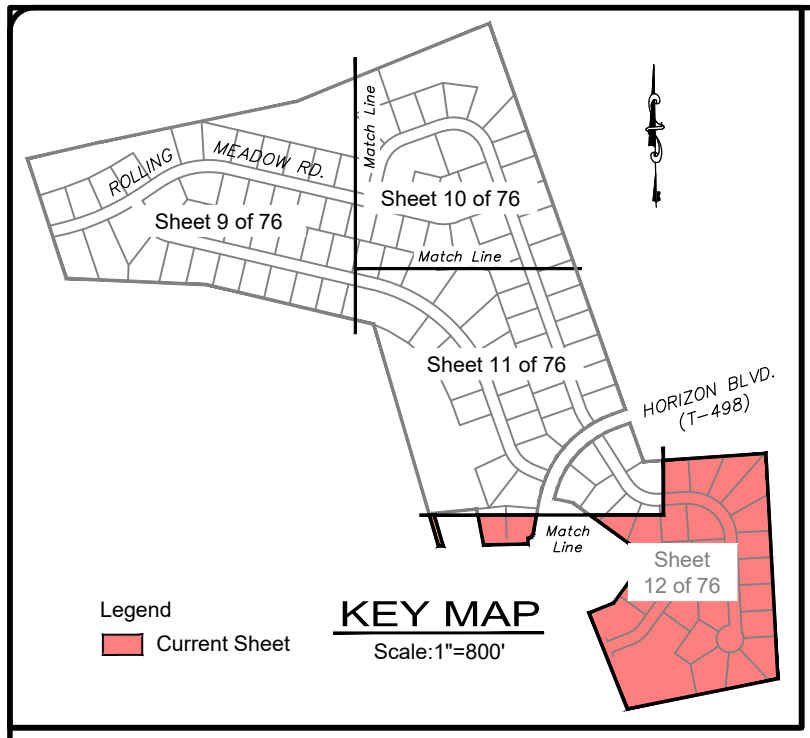


REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCOP LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCOP LETTER DATED 5/17/23	7/13/23	CDS/EJG

**SUBDIVISION PLAN**  
 For  
**PRELIMINARY SUBDIVISION**  
 THE ESTATES AT HEARTHSTONE  
 located in  
 NORTH LEBANON TOWNSHIP  
 Lebanon County, Pennsylvania



FIELD CREW: MOD,EC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT #784-22-001



**PR. 6 FIRESIDE DRIVE CURVE DATA**

CURVE #	LENGTH (FT)	RADIUS (FT)	CHORD LENGTH (FT)	CHORD DIRECTION
RC1	378.85	1026.45	374.73	N 68°30'17" E
RC2	31.15	1264.95	31.15	N 57°01'17" E
RC3	287.00	350.00	279.03	N 79°43'00" E
RC12	115.97	150.00	113.10	S 54°38'35" E

CURVE #	LENGTH (FT)	RADIUS (FT)	CHORD LENGTH (FT)	CHORD DIRECTION
RC4	85.66	150.00	84.50	N 86°50'57" E
RC5	149.96	150.00	143.80	N 41°50'57" E
RC6	235.62	150.00	212.13	S 64°30'36" E

CURVE #	LENGTH (FT)	RADIUS (FT)	CHORD LENGTH (FT)	CHORD DIRECTION
RC7	45.38	200.00	45.28	S 26°00'36" E
RC8	161.14	150.00	153.50	S 63°17'06" E
RC13	674.84	675.00	647.08	S 48°09'03" E
RC14	124.98	150.00	121.40	S 43°22'46" E

CURVE #	LENGTH (FT)	RADIUS (FT)	CHORD LENGTH (FT)	CHORD DIRECTION
RC10	133.46	150.00	129.10	N 61°21'07" E
RC11	90.69	150.00	89.31	N 18°32'33" E

CURVE #	LENGTH (FT)	RADIUS (FT)	CHORD LENGTH (FT)	CHORD DIRECTION
RC9	277.64	175.00	249.43	S 48°36'33" E
RC10	133.46	150.00	129.10	N 61°21'07" E
RC11	90.69	150.00	89.31	N 18°32'33" E
RC12	322.05	150.00	283.66	S 58°20'56" W
RC13	134.67	150.00	130.20	N 85°51'51" W

**PR. LOT CURVE DATA**

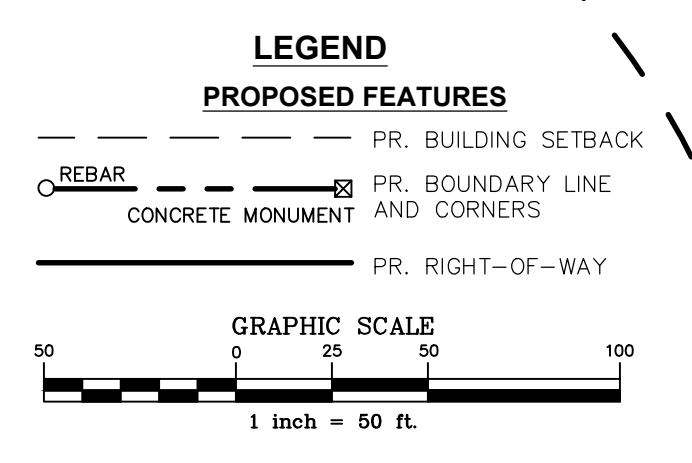
CURVE #	LENGTH (FT)	RADIUS (FT)	CHORD LENGTH (FT)	CHORD DIRECTION
C15	110.89	1000.00	110.84	S 75°51'16" W
C16	120.99	1000.00	120.92	S 69°21'41" W
C17	106.54	375.00	106.18	S 64°21'50" W
C18	166.16	1000.00	165.97	S 60°59'07" W
C19	94.19	375.00	93.94	S 79°41'53" W
C20	106.78	375.00	106.42	N 84°56'57" W
C79	74.56	175.00	73.99	S 64°35'12" E
C80	103.55	1050.00	103.51	N 62°46'21" E
C81	18.34	12.00	16.61	S 76°16'25" E
C82	60.74	175.00	60.44	S 42°26'17" E
C83	112.34	1050.00	112.29	N 68°39'46" E
C84	127.76	1050.00	127.68	N 75°12'49" E
C85	66.00	125.00	65.23	N 47°37'12" W
C86	18.58	12.00	16.78	N 11°51'55" E
C87	63.28	325.00	63.18	N 61°48'12" E
C88	192.11	325.00	189.32	N 84°18'55" E
C89	11.11	325.00	11.11	S 77°46'17" E
C106	30.64	125.00	30.57	N 69°46'08" W

**PR. LOT CURVE DATA (CON'T)**

CURVE #	LENGTH (FT)	RADIUS (FT)	CHORD LENGTH (FT)	CHORD DIRECTION
C21	18.85	12.00	16.97	S 58°12'29" W
C22	7.14	175.00	7.14	S 14°22'36" W
C23	87.94	175.00	87.02	S 29°56'32" W
C24	79.88	175.00	79.18	S 57°24'51" W
C25	35.64	175.00	35.58	S 76°19'30" W
C26	80.45	175.00	79.74	N 84°40'14" W
C27	76.54	175.00	75.93	N 58°58'16" W
C28	70.93	175.00	70.45	N 34°49'47" W
C29	11.32	175.00	11.32	N 21°21'50" W
C90	64.62	175.00	64.25	S 87°22'12" E
C91	35.31	175.00	35.25	N 76°16'15" E
C107	18.85	12.00	16.97	N 31°47'31" W
C108	124.97	125.00	119.83	N 41°50'57" W
C109	196.35	125.00	176.78	S 64°30'36" E
C110	18.85	12.00	16.97	S 25°29'24" W
C111	71.38	125.00	70.41	S 86°50'57" W

**PROPOSED LOT CURVE TABLE (SEE SHEET 10 OF 74)**

CURVE #	LENGTH (FT)	RADIUS (FT)	CHORD LENGTH (FT)	CHORD DIRECTION
C30	70.44	465.00	70.37	S 66°17'45" W
C31	17.91	12.00	16.30	N 75°16'37" W
C32	39.71	175.00	39.62	N 26°00'36" W
C33	19.99	12.00	17.75	N 15°12'06" E
C34	54.59	405.00	54.54	N 66°46'27" E
C35	134.28	125.00	127.92	N 63°17'06" W
C61	75.44	175.00	74.83	S 81°42'51" E
C62	75.44	175.00	74.86	S 57°01'07" E
C63	37.14	175.00	37.07	S 38°55'21" E
C64	122.66	405.00	122.19	N 43°25'55" E
C66	19.98	12.00	17.75	S 80°12'02" E
C67	158.24	405.00	157.24	N 23°33'43" E
C68	45.23	175.00	45.10	S 59°50'42" E
C69	17.92	12.00	16.30	S 24°28'25" E
C70	65.17	465.00	65.12	S 14°17'12" W
C73	82.67	175.00	81.90	S 38°54'29" E
C75	134.94	650.00	134.70	S 25°27'26" E
C76	125.23	650.00	125.04	S 36°55'26" E
C93	51.05	225.00	50.94	S 26°00'36" E
C94	17.92	12.00	16.30	S 10°16'27" W
C95	107.47	465.00	107.23	S 46°26'14" W
C96	102.44	419.74	102.18	S 33°30'28" W
C97	17.92	12.00	16.30	S 69°58'31" W
C98	104.15	125.00	101.16	N 43°22'46" W
C99	63.99	700.00	63.97	N 22°07'44" W
C100	92.96	700.00	92.90	N 28°33'09" W
C101	121.49	700.00	121.34	N 37°19'45" W
C102	152.17	700.00	151.87	N 48°31'44" W
C103	152.97	700.00	152.67	N 61°01'01" W
C104	100.37	700.00	100.29	N 71°23'06" W
C105	15.87	700.00	15.87	N 76°08'33" W



**PR. LOT CURVE DATA (CON'T)**

CURVE #	LENGTH (FT)	RADIUS (FT)	CHORD LENGTH (FT)	CHORD DIRECTION
C36	22.70	200.00	22.69	S 89°11'30" W
C37	72.91	200.00	72.51	N 77°06'45" W
C38	63.04	200.00	62.78	N 57°38'19" W
C39	65.87	200.00	65.57	N 39°10'27" W
C40	74.02	200.00	73.59	N 19°08'13" W
C41	18.77	200.00	18.76	N 05°50'49" W
C47	28.86	200.00	28.42	S 51°56'23" W
C72	18.79	250.00	18.78	N 89°12'40" W
C137	139.22	650.00	138.95	S 70°39'22" E
C138	250.46	650.00	248.91	S 53°28'54" E

**PROPOSED LOT CURVE TABLE (SEE SHEET 12 OF 74)**

CURVE #	LENGTH (FT)	RADIUS (FT)	CHORD LENGTH (FT)	CHORD DIRECTION
C36	22.70	200.00	22.69	S 89°11'30" W
C37	72.91	200.00	72.51	N 77°06'45" W
C38	63.04	200.00	62.78	N 57°38'19" W
C39	65.87	200.00	65.57	N 39°10'27" W
C40	74.02	200.00	73.59	N 19°08'13" W
C41	18.77	200.00	18.76	N 05°50'49" W
C114	71.19	175.00	70.70	N 08°29'43" E
C116	69.44	175.00	68.98	N 31°30'58" E
C117	69.44	175.00	68.98	N 54°15'02" E
C118	77.75	175.00	77.11	N 78°20'43" E
C119	30.54	185.00	30.50	N 26°18'49" W
C120	112.23	125.00	108.50	S 85°51'51" E
C121	87.92	175.00	86.99	S 74°32'08" E
C122	223.98	125.00	195.20	S 68°31'27" W
C123	52.60	175.00	52.40	N 68°45'17" W
C124	16.46	12.00	15.20	N 38°04'18" W
C125	75.57	125.00	74.43	N 18°32'33" E
C126	44.40	125.00	44.16	S 07°01'00" W
C127	111.22	125.00	107.59	N 61°21'07" E
C128	18.85	12.00	16.97	S 48°09'31" E
C129	16.46	12.00	15.20	S 40°30'59" W
C130	34.81	175.00	34.75	S 74°06'46" W
C131	105.80	175.00	104.20	S 18°32'33" W
C132	49.22	175.00	49.06	S 43°55'12" W
C134	229.97	150.00	208.10	S 50°08'20" E
C135	19.49	12.00	17.42	S 40°18'42" W
C136	106.49	175.00	104.85	S 69°24'34" W

EVA M. HEMMA  
DEED: 2201-12  
UPI: 27-2335312-379

JANET M. CIKOVIC  
DEED: 2232-9765  
PLAN: 69-111  
UPI: 27-2334375-378835-0000

DEED: 2242-2886  
UPI: 27-2335279-378904-0000

UPI: 27-2335291-378205-0000

UPI: 27-2335291-378205-0000

UPI: 27-2335291-378205-0000

UPI: 27-2335291-378205-0000

UPI: 27-2335291-378205-0000

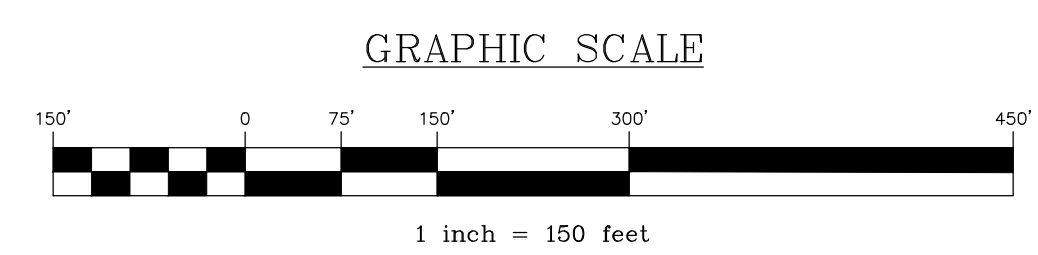
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UPI: 27-2335291-378205-0000

REVISION	DATE	BY
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REVISED PER LCD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

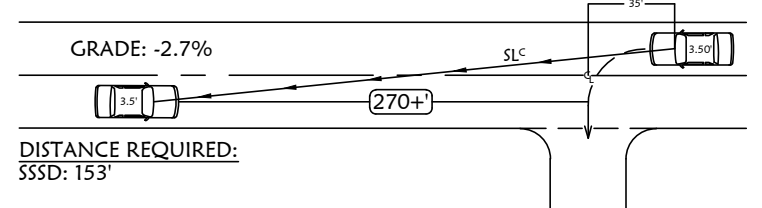
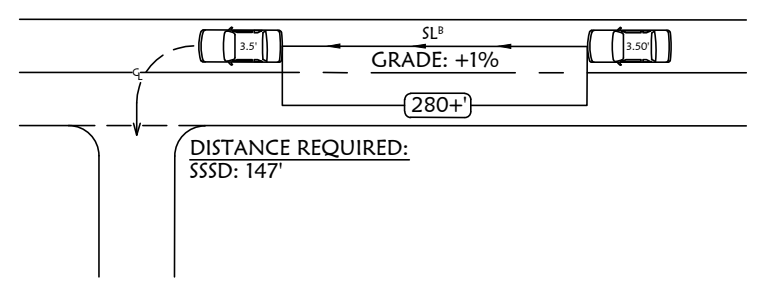
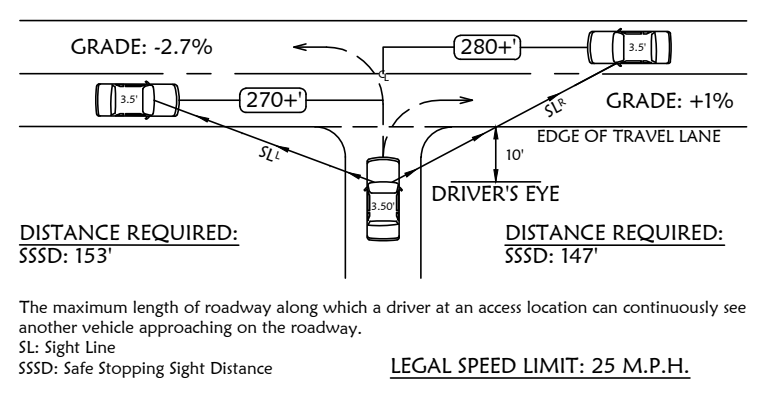
**SUBDIVISION PLAN**  
PRELIMINARY SUBDIVISION  
THE ESTATES AT HEARTHSE  
located in  
NORTH LEBANON TOWNSHIP  
LEBANON COUNTY, PENNSYLVANIA

FIELD CREW: MOD/JEC  
BASE MAP: JEC  
DRAWN: CDS  
DESIGN: CDS  
CHECKED: SAS  
DATE: 11/4/22  
SCALE: 1"=50'  
PROJECT # 784-22-001

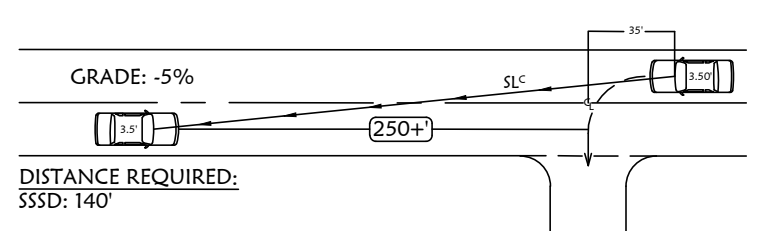
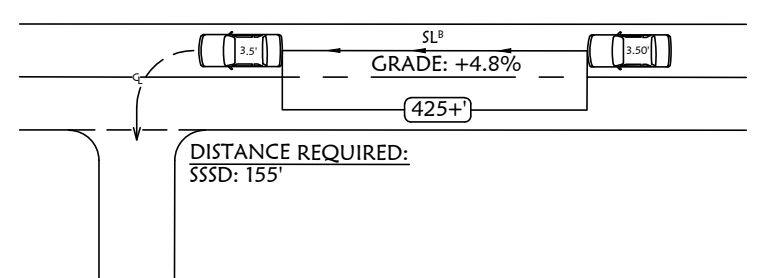
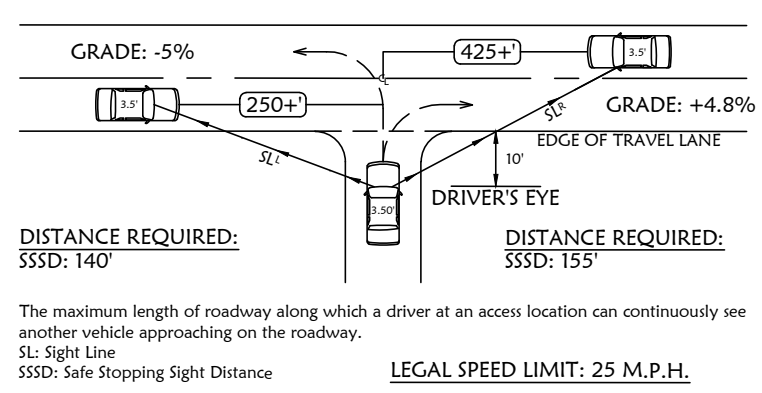


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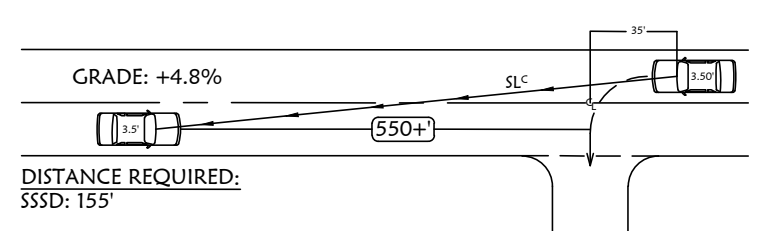
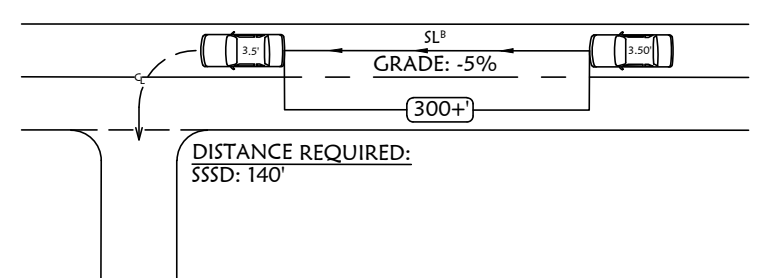
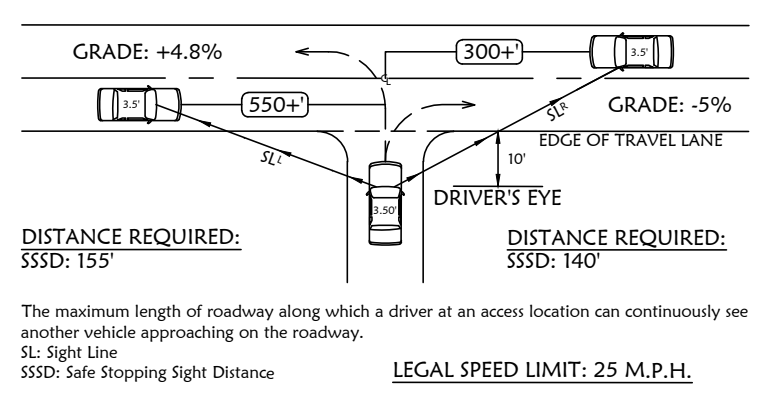
EXISTING FEATURES	
	EXISTING ADJOINER LINE
	EXISTING BOUNDARY LINE AND CORNERS
	EXISTING EDGE OF PAVEMENT AND CURB LINE
	EXISTING RIGHT-OF-WAY
	EXISTING FENCE
	EXISTING SIDEWALK/CONCRETE
	EXISTING TOWNSHIP BOUNDARY
PROPOSED FEATURES	
	PROPOSED BUILDING SETBACK
	PROPOSED BOUNDARY LINE AND CORNERS
	PROPOSED EDGE OF PAVEMENT AND CURB LINE
	PROPOSED RIGHT-OF-WAY
	PROPOSED CONCRETE/SIDEWALK
	PROPOSED LIGHT POLE
	PROPOSED STOP BAR
	PROPOSED SIGN
	PROPOSED CROSS WALK



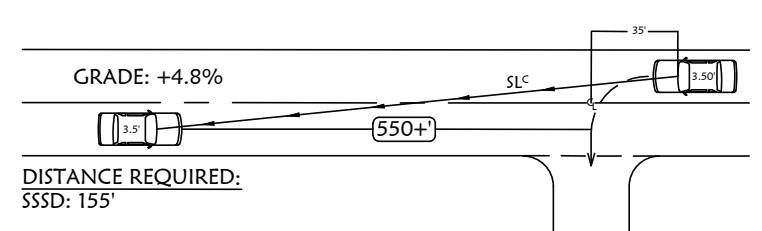
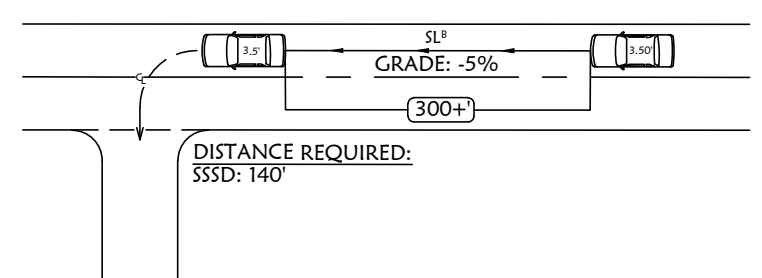
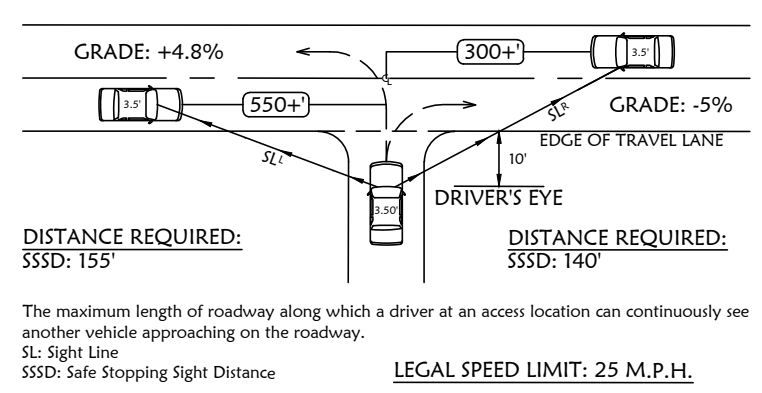
**STARLIGHT LANE SIGHT DISTANCE**  
NO SCALE



**SUNSET WAY (S.E.) SIGHT DISTANCE**  
NO SCALE



**SUNSET WAY (N.W.) SIGHT DISTANCE**  
NO SCALE



**SUNSET WAY (AT JAY STREET) SIGHT DISTANCE**  
NO SCALE

**SIGHT DISTANCE NOTE:**  
NO VISION OBSTRUCTING OBJECTS SHALL BE PERMITTED WHICH OBSCURE VISION ABOVE THE HEIGHT OF 30' AND BELOW 10' WITHIN THE CLEAR SIGHT TRIANGLE.

REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**OVERALL LAYOUT PLAN**  
PRELIMINARY SUBDIVISION  
AND LAND DEVELOPMENT PLANS  
For  
**THE ESTATES AT HEARTHSTONE**  
located in  
NORTH LEBANON TOWNSHIP  
LEBANON County, Pennsylvania

FIELD CREW: MOD, JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=150'
PROJECT # 784-22-001

**LEGEND**

**EXISTING FEATURES**

- EXISTING ADJOINER LINE AND CORNERS
- EXISTING BOUNDARY LINE AND CORNERS
- EXISTING EDGE OF PAVEMENT AND CURB LINE
- EXISTING RIGHT-OF-WAY
- EXISTING FENCE
- EXISTING SIDEWALK/CONCRETE
- EXISTING TOWNSHIP BOUNDARY

**PROPOSED FEATURES**

- PROPOSED BUILDING SETBACK
- PROPOSED BOUNDARY LINE AND CORNERS
- PROPOSED EDGE OF PAVEMENT AND CURB LINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED CONCRETE/SIDEWALK
- PROPOSED LIGHT POLE
- PROPOSED STOP BAR
- PROPOSED SIGN
- PROPOSED CROSS WALK
- PROPOSED STREET ADDRESS

**SIGNAGE LEGEND**

SYMBOL	DESCRIPTION	SIZE	PA DOT DESIG.
	STOP SIGN	24x24	R1-1
	STREET SIGN	18x24	

**SIGHT DISTANCE NOTE:**

NO VISION OBSTRUCTING OBJECTS SHALL BE PERMITTED WHICH OBSCURE VISION ABOVE THE HEIGHT OF 30" AND BELOW 10' WITHIN THE CLEAR SIGHT TRIANGLE.



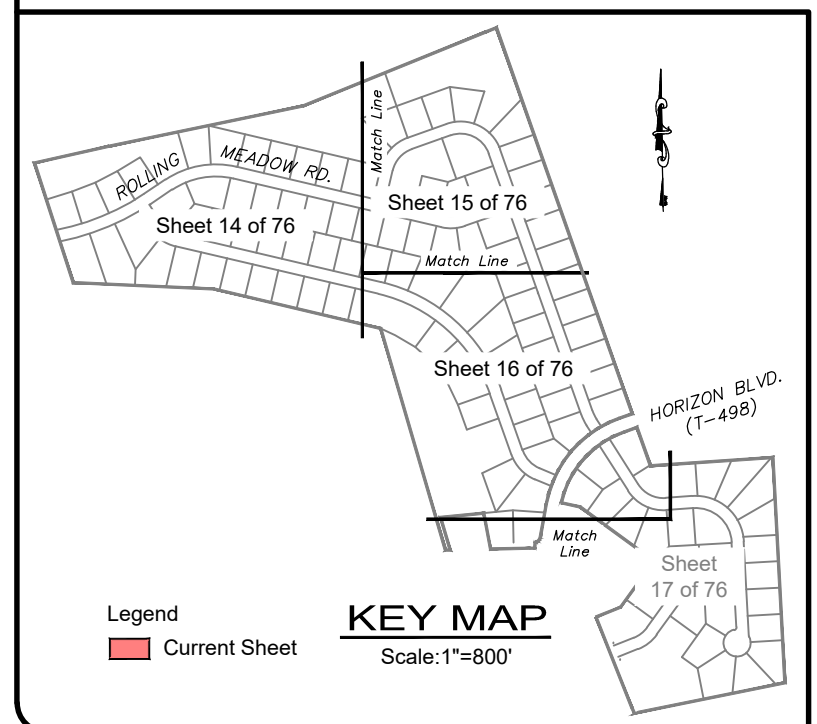
REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

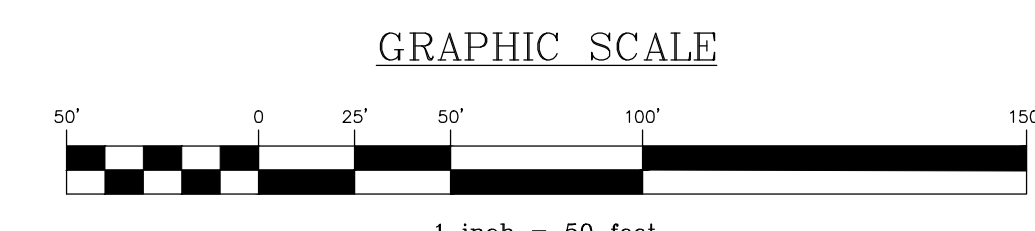
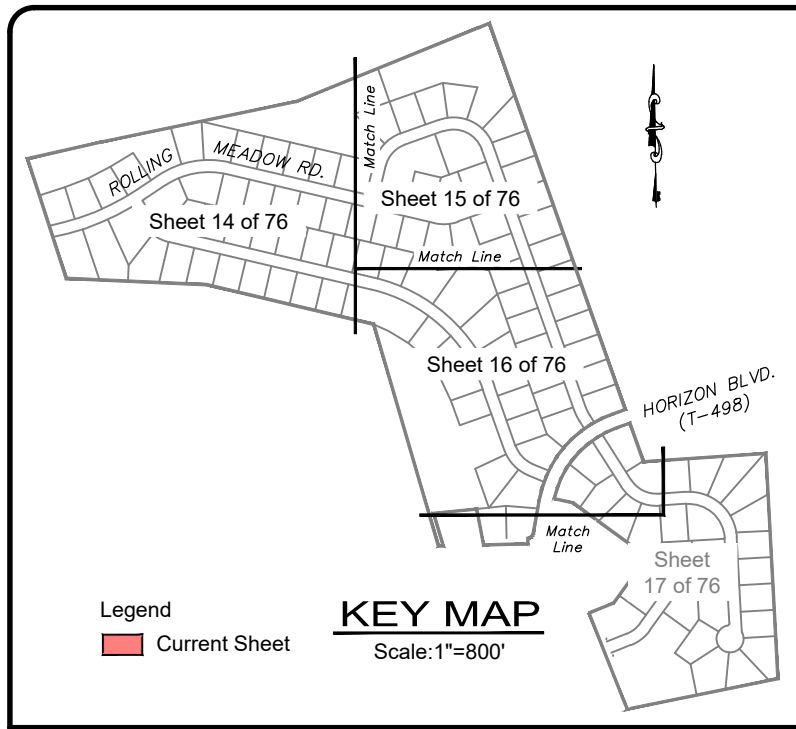
REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**LAYOUT PLAN**  
 PRELIMINARY SUBDIVISION  
 For  
**THE ESTATES AT HEARTSIDE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

Steadback Engineering & Surveying, Inc.  
 279 Lebanon, Pennsylvania 17042  
 Phone: (717) 272-7110  
 Fax: (717) 272-7348

FIELD CREW: MOD, JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1" = 50'
PROJECT # 784-22-001





**LEGEND**

**EXISTING FEATURES**

- EXISTING ADJOINER LINE
- EXISTING BOUNDARY LINE AND CORNERS
- EXISTING EDGE OF PAVEMENT AND CURB LINE
- EXISTING RIGHT-OF-WAY
- EXISTING FENCE
- EXISTING SIDEWALK/CONCRETE
- EXISTING TOWNSHIP BOUNDARY

**PROPOSED FEATURES**

- PROPOSED BUILDING SETBACK AND CORNERS
- PROPOSED EDGE OF PAVEMENT AND CURB LINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED CONCRETE/SIDEWALK
- PROPOSED LIGHT POLE
- PROPOSED STOP BAR
- PROPOSED SIGN
- PROPOSED CROSS WALK
- PROPOSED STREET ADDRESS

**SIGNAGE LEGEND**

SYMBOL	DESCRIPTION	SIZE	PA DOT DESIG.
	STOP SIGN	24x24	R1-1
	SPEED LIMIT	18x24	

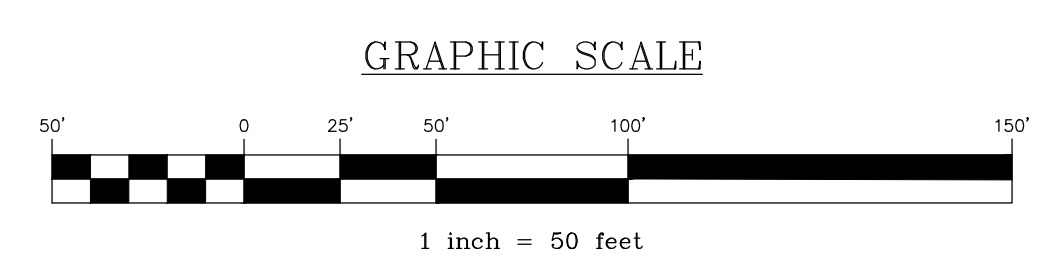
**SIGHT DISTANCE NOTE:**  
NO VISION OBSTRUCTING OBJECTS SHALL BE PERMITTED WHICH OBSCURE VISION ABOVE THE HEIGHT OF 30' AND BELOW 10' WITHIN THE CLEAR SIGHT TRIANGLE.

REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**LAYOUT PLAN**  
PRELIMINARY SUBDIVISION  
For  
**THE ESTATES AT HEARTSIDE**  
located in  
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LEBANON County, Pennsylvania

**Steadback Engineering & Surveying, Inc.**  
279 Lebanon, Pennsylvania 17042  
Phone: (717) 272-7110  
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FIELD CREW: MOD,JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT # 784-22-001



**LEGEND**

**EXISTING FEATURES**

- EXISTING ADJOINER LINE
- EXISTING BOUNDARY LINE AND CORNERS
- EXISTING EDGE OF PAVEMENT AND CURB LINE
- EXISTING RIGHT-OF-WAY
- EXISTING FENCE
- EXISTING SIDEWALK/CONCRETE
- EXISTING TOWNSHIP BOUNDARY

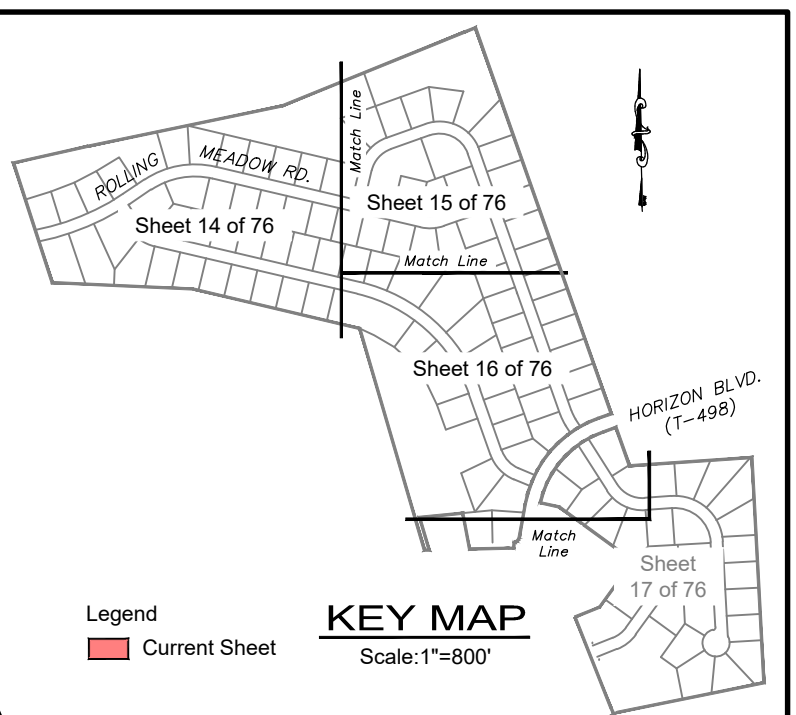
**PROPOSED FEATURES**

- PROPOSED BUILDING SETBACK
- PROPOSED BOUNDARY LINE AND CORNERS
- PROPOSED EDGE OF PAVEMENT AND CURB LINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED CONCRETE/SIDEWALK
- PROPOSED LIGHT POLE
- PROPOSED STOP BAR
- PROPOSED SIGN
- PROPOSED CROSS WALK
- PROPOSED STREET ADDRESS

**SIGNAGE LEGEND**

SYMBOL	DESCRIPTION	SIZE	PA DOT DESIG.
	STOP SIGN	24x24	R1-1
	STREET SIGN	18x24	
	SPEED LIMIT	18x24	

NOTE: NO VISION OBSTRUCTING OBJECTS SHALL BE PERMITTED WHICH OBSCURE VISION ABOVE THE HEIGHT OF 30" AND BELOW 10" TO THE SIGHT DISTANCE.



REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

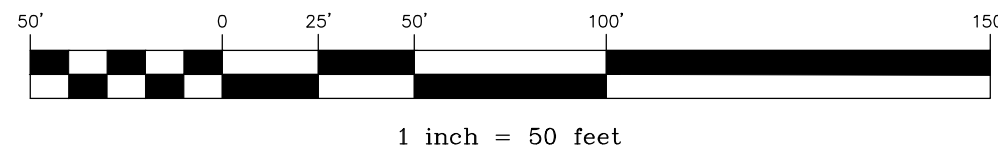
**LAYOUT PLAN**  
 For  
**PRELIMINARY SUBDIVISION**  
**THE ESTATES AT HEARTSIDE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

FIELD CREW: MOD/JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT # 784-22-001





**GRAPHIC SCALE**



**LEGEND**

**EXISTING FEATURES**

- EXISTING ADJOINER LINE
- EXISTING BOUNDARY LINE AND CORNERS
- EXISTING EDGE OF PAVEMENT AND CURB LINE
- EXISTING RIGHT-OF-WAY
- EXISTING FENCE
- EXISTING SIDEWALK/CONCRETE
- EXISTING TOWNSHIP BOUNDARY

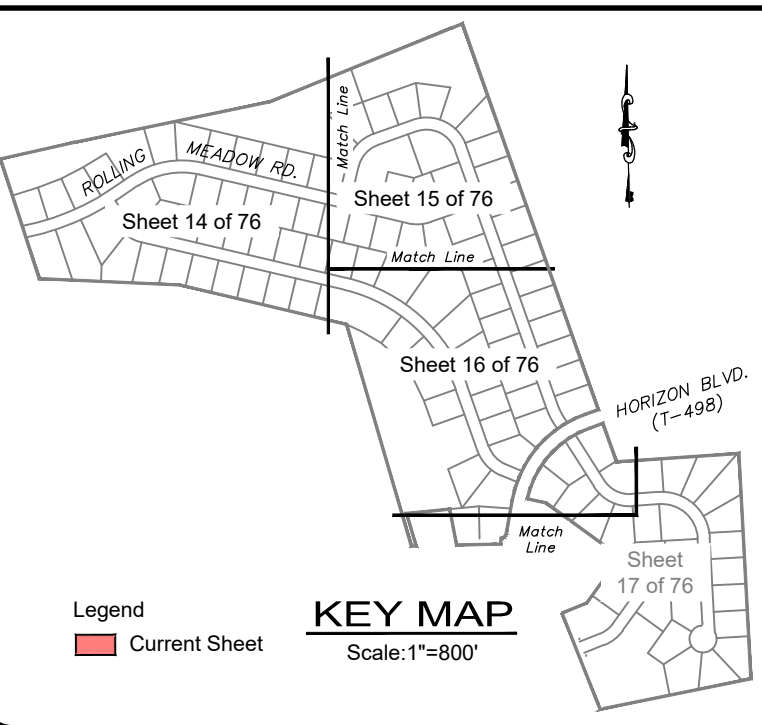
**PROPOSED FEATURES**

- PROPOSED BUILDING SETBACK
- PROPOSED BOUNDARY LINE AND CORNERS
- PROPOSED EDGE OF PAVEMENT AND CURB LINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED CONCRETE/SIDEWALK
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**SIGNAGE LEGEND**

SYMBOL	DESCRIPTION	SIZE	PA DOT DESIG.
	STOP SIGN	24x24	R1-1
	STREET SIGN	18x24	
	SPEED LIMIT	18x24	

NOTE: NO VISION OBSTRUCTING OBJECTS SHALL BE PERMITTED WHICH OBSCURE VISION ABOVE THE HEIGHT OF 30' AND BELOW 10' TO THE SIGHT DISTANCE.



REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

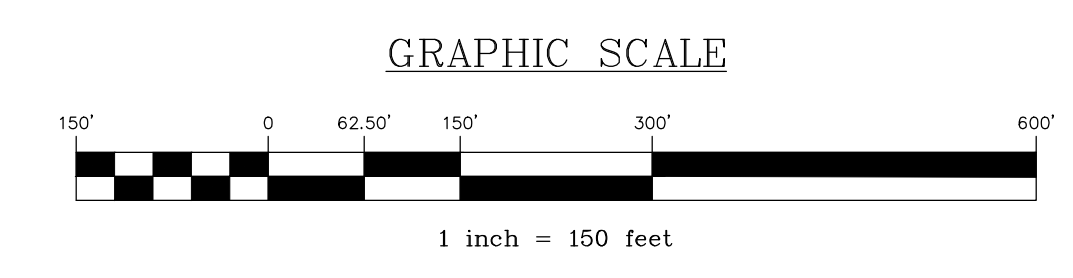
**LAYOUT PLAN**  
 For  
**PRELIMINARY SUBDIVISION**  
 THE ESTATES AT HEARTSIDE  
 located in  
 NORTH LEBANON TOWNSHIP  
 Lebanon County, Pennsylvania

FIELD CREW: MOD,JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT #784-22-001



**LEGEND**

- EXISTING FEATURES**
- EXISTING ADJOINER LINE
  - EXISTING BOUNDARY LINE AND CORNERS
  - EXISTING EDGE OF PAVEMENT AND CURB LINE
  - EXISTING RIGHT-OF-WAY
- PROPOSED FEATURES**
- PROPOSED BUILDING SETBACK
  - PROPOSED BOUNDARY LINE AND CORNERS
  - PROPOSED EDGE OF PAVEMENT AND CURB LINE
  - PROPOSED STORMWATER EASEMENTS
  - PROPOSED SANITARY SEWER EASEMENT
  - RIPARIAN EASEMENT

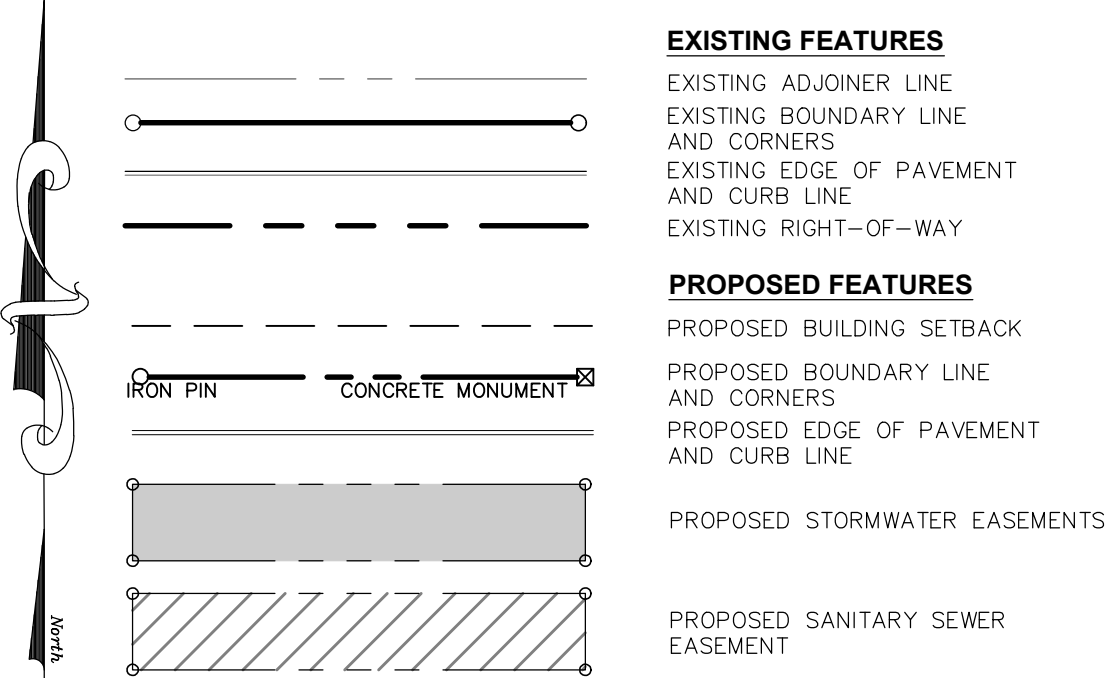


**OVERALL EASEMENT PLAN**  
 PRELIMINARY SUBDIVISION  
 AND LAND DEVELOPMENT PLANS  
 For  
**THE ESTATES AT HEARTSIDE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

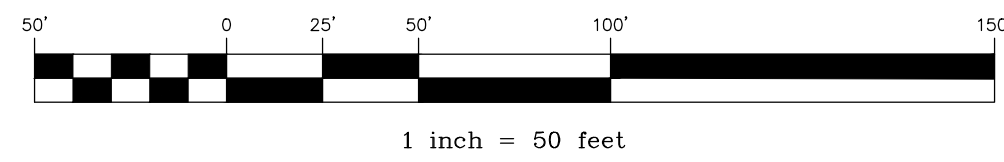
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BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=150'
PROJECT #	784-22-001

REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**LEGEND**

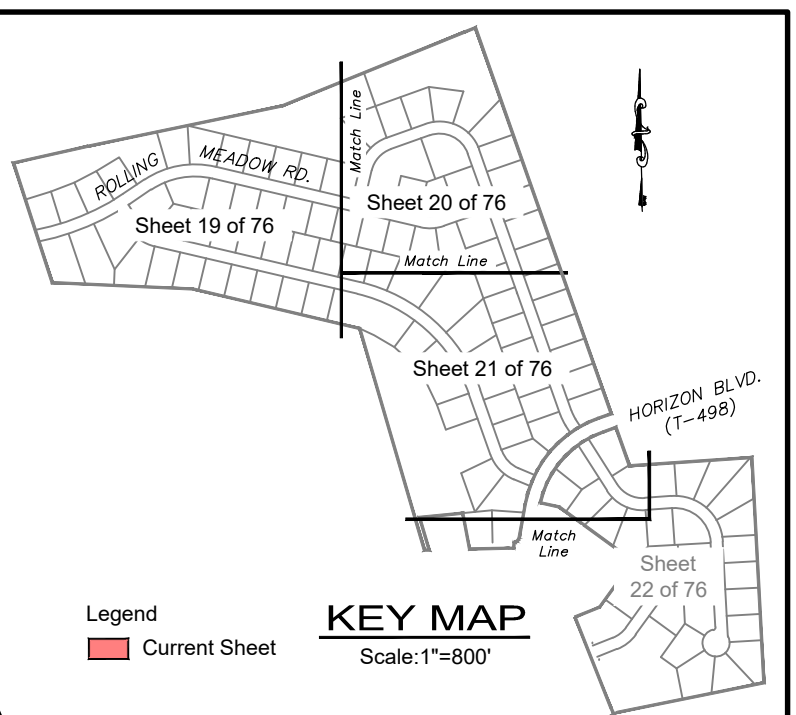


**GRAPHIC SCALE**



**STORMWATER EASEMENT CURVE TABLE**

CURVE #	LENGTH (FT)	RADIUS (FT)	CHORD LENGTH (FT)	CHORD DIRECTION
E1	20.01	1000.00	20.01	S 72° 57' 05" W
E2	106.54	375.00	106.18	S 64° 21' 50" W
E3	20.25	325.00	20.24	N 62° 49' 05" E
E4	20.15	175.00	20.14	S 47° 42' 31" E
E5	14.48	325.00	14.48	S 78° 04' 07" E



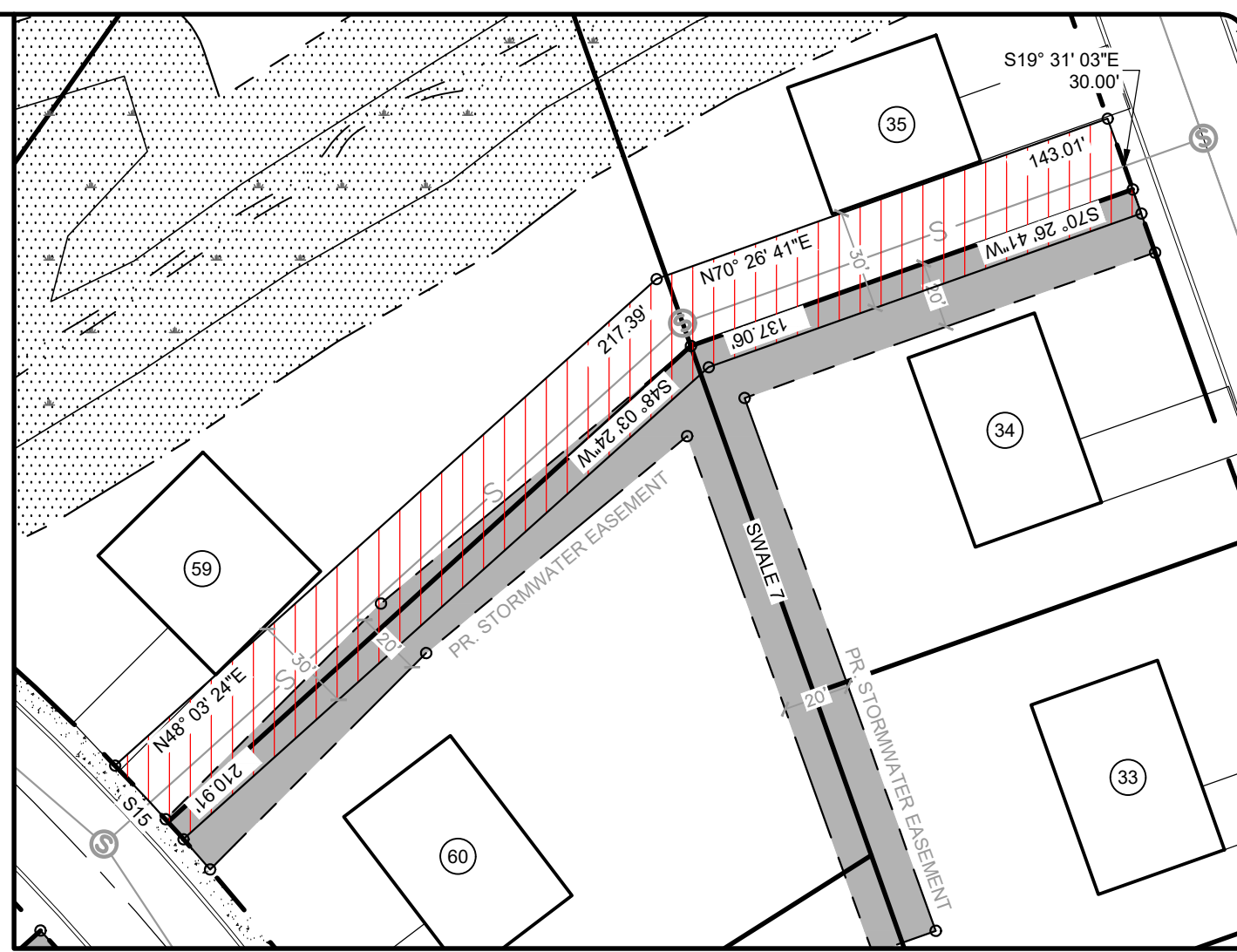
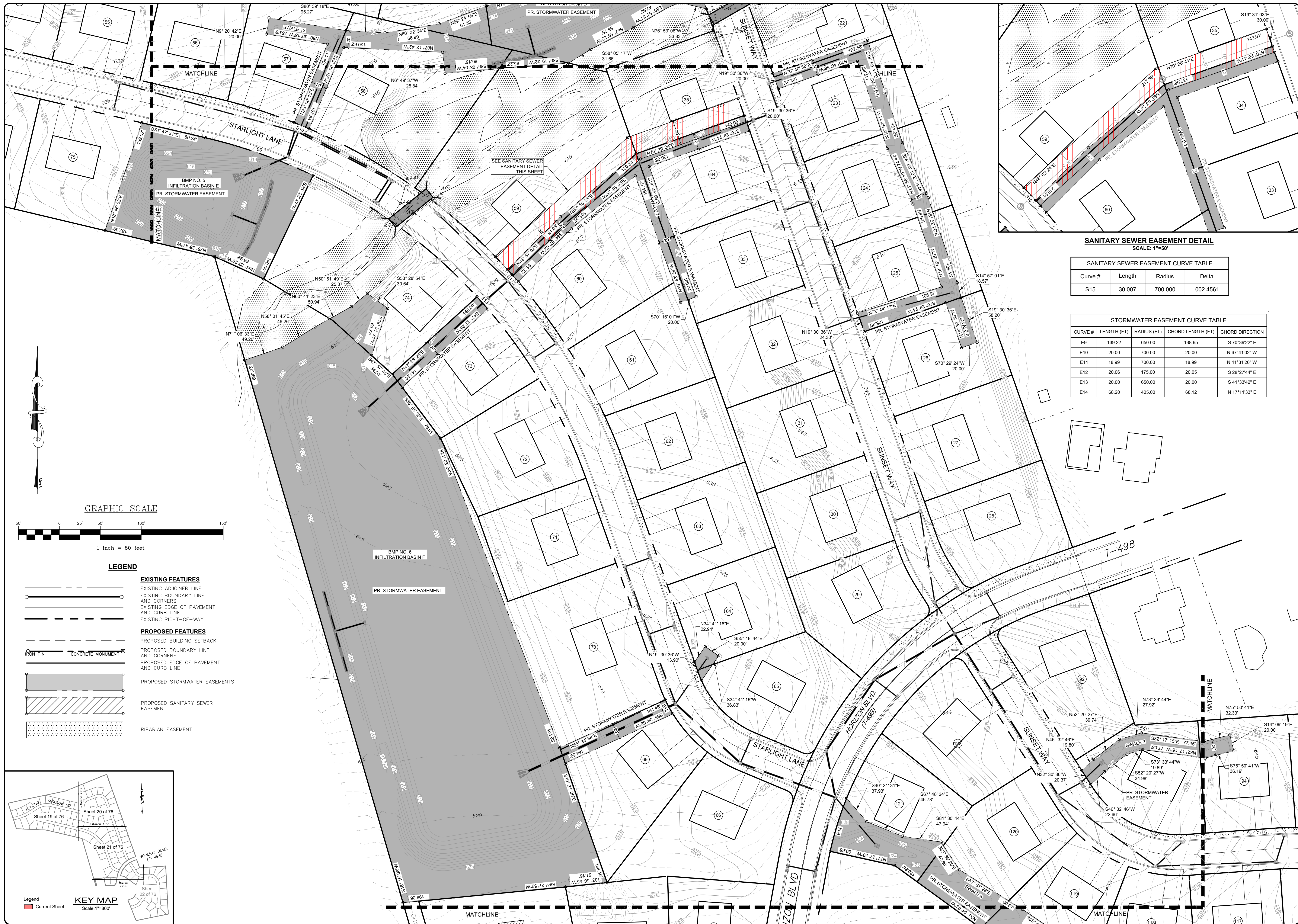
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REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**EASEMENT PLAN**  
 PRELIMINARY SUBDIVISION  
 THE ESTATES AT HEARTSIDE  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON COUNTY, PENNSYLVANIA

Steadbeck Engineering & Surveying, Inc.  
 279 Lebanon, Pennsylvania 17042  
 Phone: (717) 272-7110  
 Fax: (717) 272-7348

FIELD CREW: MOD,JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
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DATE: 11/4/22
SCALE: 1"=50'
PROJECT # 784-22-001





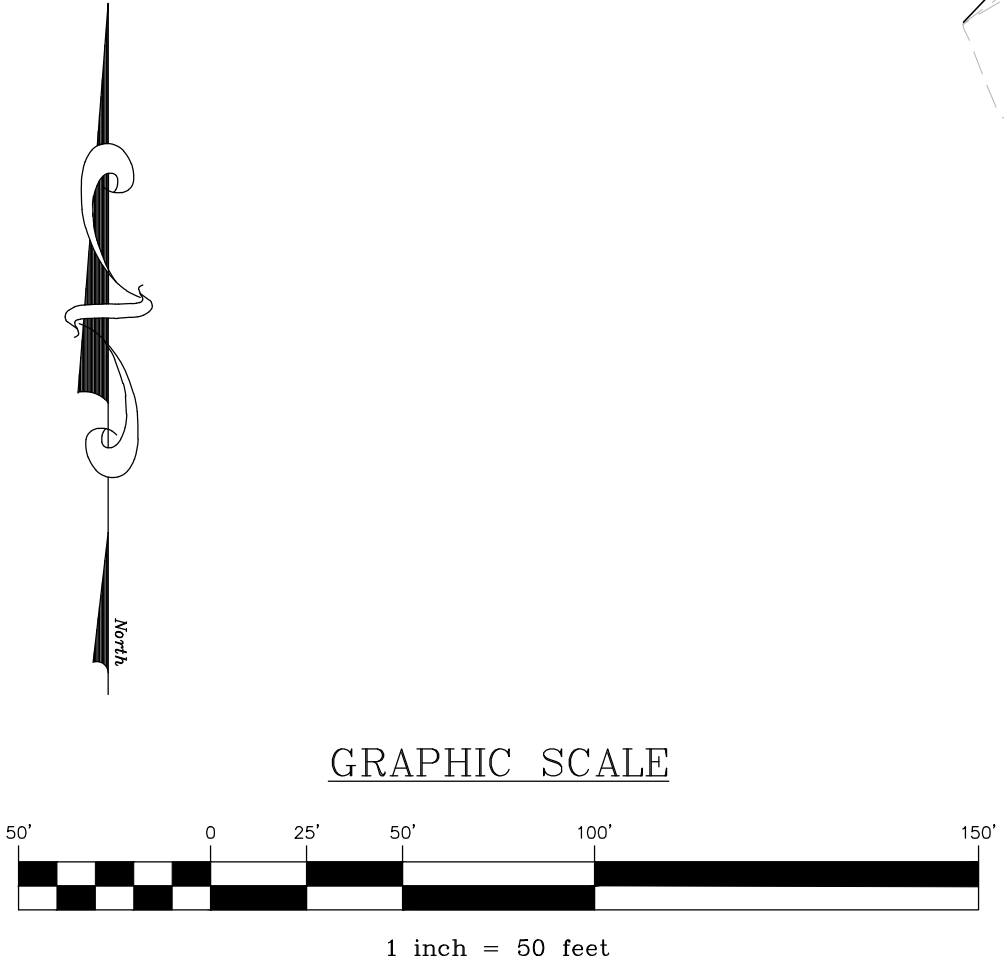
**SANITARY SEWER EASEMENT DETAIL**  
SCALE: 1"=50'

**SANITARY SEWER EASEMENT CURVE TABLE**

Curve #	Length	Radius	Delta
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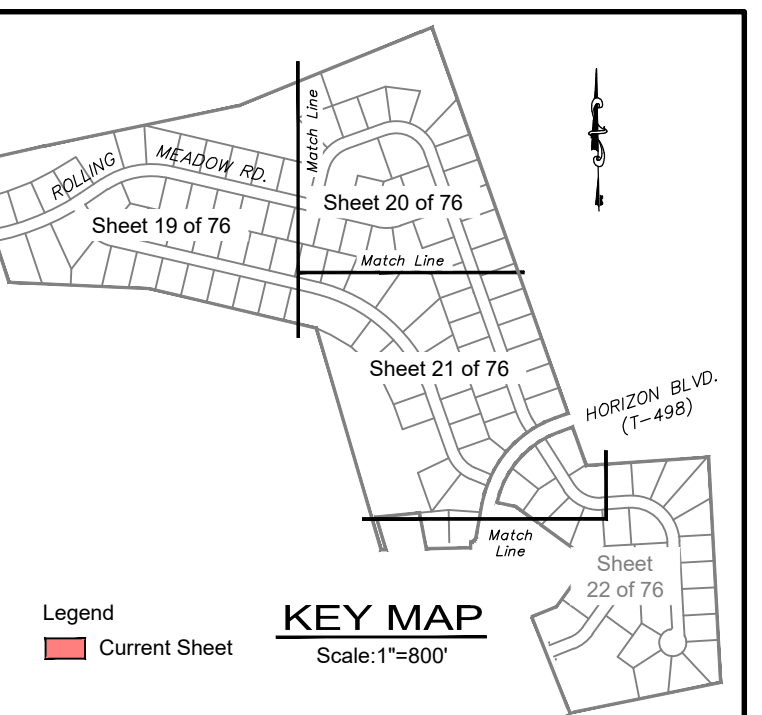
**STORMWATER EASEMENT CURVE TABLE**

CURVE #	LENGTH (FT)	RADIUS (FT)	CHORD LENGTH (FT)	CHORD DIRECTION
E9	139.22	650.00	138.95	S 70°39'22" E
E10	20.00	700.00	20.00	N 67°41'02" W
E11	18.99	700.00	18.99	N 41°31'26" W
E12	20.06	175.00	20.05	S 28°27'44" E
E13	20.00	650.00	20.00	S 41°33'42" E
E14	68.20	405.00	68.12	N 17°11'33" E



**LEGEND**

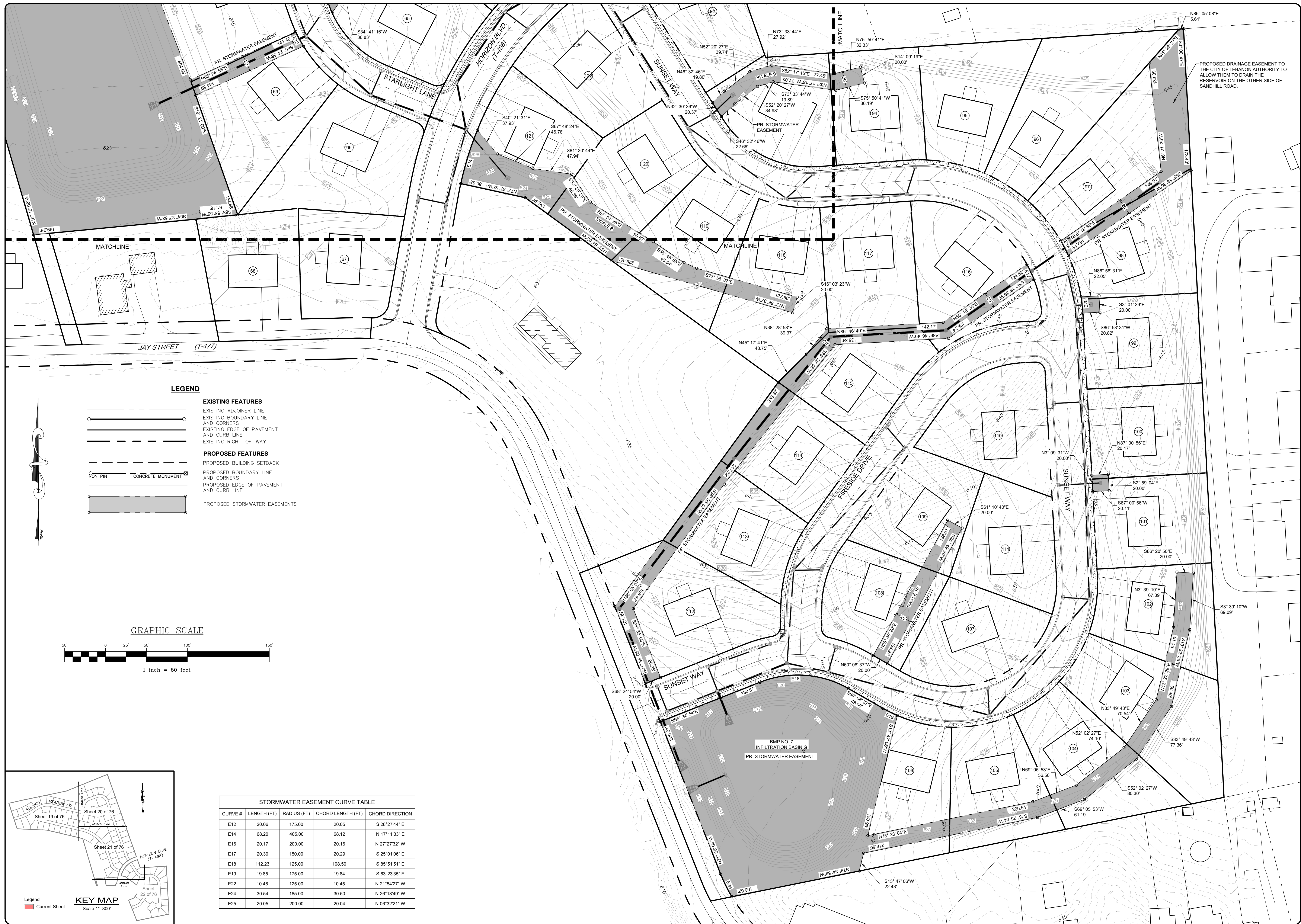
- EXISTING FEATURES**
  - EXISTING ADJOINER LINE
  - EXISTING BOUNDARY LINE AND CORNERS
  - EXISTING EDGE OF PAVEMENT AND CURB LINE
  - EXISTING RIGHT-OF-WAY
- PROPOSED FEATURES**
  - PROPOSED BUILDING SETBACK
  - PROPOSED BOUNDARY LINE AND CORNERS
  - PROPOSED EDGE OF PAVEMENT AND CURB LINE
  - PROPOSED STORMWATER EASEMENTS
  - PROPOSED SANITARY SEWER EASEMENT
  - RIPARIAN EASEMENT



REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPO LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJC

**EASEMENT PLAN**  
For  
**PRELIMINARY SUBDIVISION**  
**THE ESTATES AT HEARTHSTONE**  
located in  
NORTH LEBANON TOWNSHIP  
LEBANON County, Pennsylvania

FIELD CREW: MOD, JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT # 784-22-001



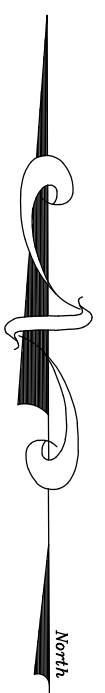
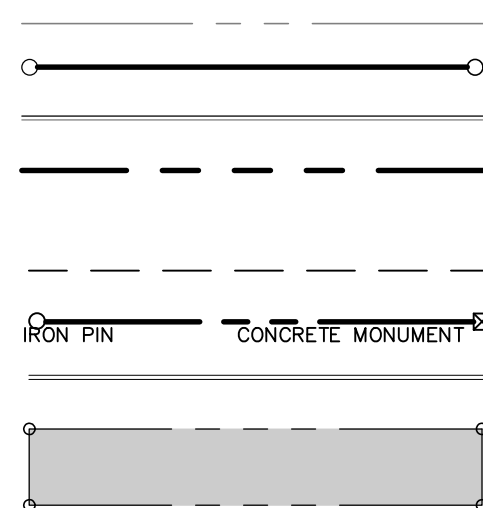
**LEGEND**

**EXISTING FEATURES**

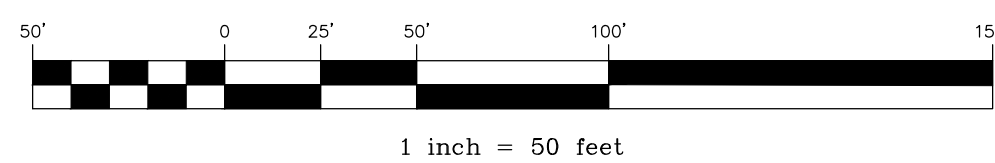
- EXISTING ADJOINER LINE
- EXISTING BOUNDARY LINE AND CORNERS
- EXISTING EDGE OF PAVEMENT AND CURB LINE
- EXISTING RIGHT-OF-WAY

**PROPOSED FEATURES**

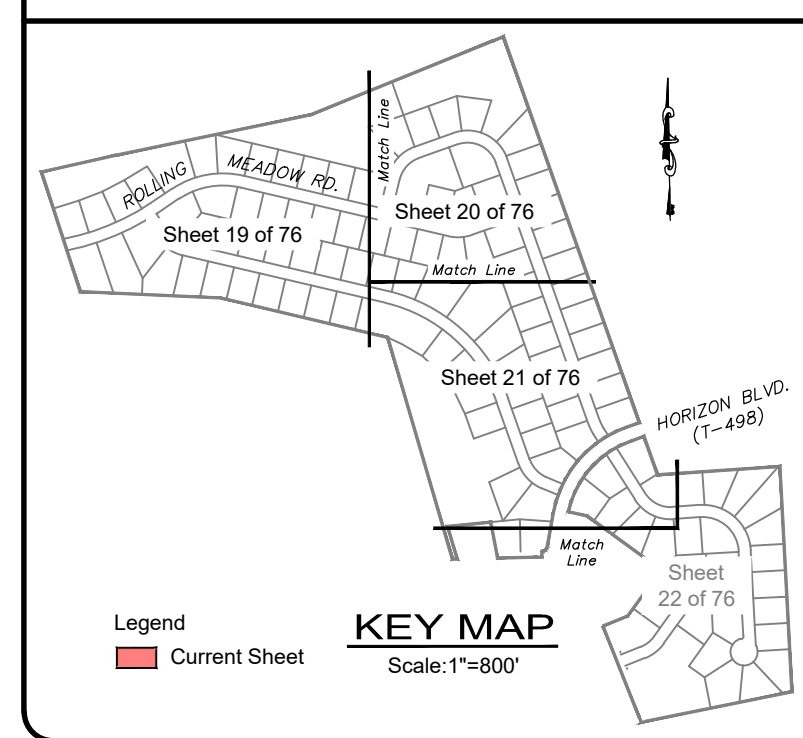
- PROPOSED BUILDING SETBACK
- PROPOSED BOUNDARY LINE AND CORNERS
- PROPOSED EDGE OF PAVEMENT AND CURB LINE
- PROPOSED STORMWATER EASEMENTS



**GRAPHIC SCALE**



STORMWATER EASEMENT CURVE TABLE				
CURVE #	LENGTH (FT)	RADIUS (FT)	CHORD LENGTH (FT)	CHORD DIRECTION
E12	20.06	175.00	20.05	S 28°27'44" E
E14	68.20	405.00	68.12	N 17°11'33" E
E16	20.17	200.00	20.16	N 27°27'32" W
E17	20.30	150.00	20.29	S 25°01'06" E
E18	112.23	125.00	108.50	S 85°51'51" E
E19	19.85	175.00	19.84	S 63°23'35" E
E22	10.46	125.00	10.45	N 21°54'27" W
E24	30.54	185.00	30.50	N 26°18'49" W
E25	20.05	200.00	20.04	N 06°32'21" W



PROPOSED DRAINAGE EASEMENT TO ALLOW THEM TO DRAIN THE RESERVOIR ON THE OTHER SIDE OF SANDHILL ROAD.

REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**EASEMENT PLAN**  
 For  
**PRELIMINARY SUBDIVISION**  
 THE ESTATES AT HEARSHIDE  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

FIELD CREW: MOD, JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT # 784-22-001

BMP DIMENSIONS / CAPACITY				
BMP	AVERAGE WIDTH (FT)	AVERAGE LENGTH (FT)	INFILTRATION VOLUME (C.F.)	STORAGE VOLUME (C.F.)
INFILTRATION BASIN A	40	475	37,704	107,192
INFILTRATION BASIN B	90	250	38,974	105,798
INFILTRATION BASIN C	145	155	25,781	121,782
DETENTION BASIN D	30	180	N/A	20,956
INFILTRATION BASIN E	60	100	7,782	32,333
INFILTRATION BASIN F	115	525	104,279	241,434
INFILTRATION BASIN G	135	160	36,427	122,606



**STORMWATER MANAGEMENT FEATURE CONSTRUCTION NOTES**

A. If redoximorphic features (soil mottling and coloration patterns formed by the reduction of iron and/or manganese from saturated conditions in the soil) are encountered:

A.A. A qualified professional should determine if the features observed are associated with a historic condition (associated with fill, previous site condition, or natural coloration) or are associated with conditions that could presently occur (seasonal variations in the water table).

A.B. Evaluate the elevation of the features relative to the proposed design elevation of the SWM feature and determine if the size and elevation of the SWM feature can be adjusted to alleviate the conflict.

A.C. Retain ECS and Civil Engineer to evaluate alternate design concepts. Alternate designs proposed by the Professional should be sealed and submitted to the Township for approval.

B. If the field verified infiltration rates are excessively high (greater than 6 inches per hour):

B.A. Determine the extent of the materials exhibiting the high infiltration rates through a combination of visual-manual classification, hand probing, density testing, or other suitable methods as determined by ECS.

B.B. Overexcavate the materials to the depth where the material type changes or a maximum depth of 2 feet, whichever is encountered first.

B.C. If excessive rates are associated with weathered or broken rock, the rock surface should be examined by ECS, prior to replacement of suitable material.

B.D. Replace the excavated material with finer grained materials approved by ECS. Suitable soil mixtures can consist of a blend of on-site and/or off-site materials available to the Contractor generally conforming to the table below, with field infiltration rates post placement determined and approved by ECS.

Permissible Soil Types for Soil Media, based on USA Classification	RECOMMENDED SOIL MEDIA BLEND						Typical Infiltration Rates for Permissible Soil Types (in/hr)	
	Ranges of USDA Particle Size Percentages						Min	Max
	Sand		Silt		Clay			
Sand, Loamy Sand, Sandy Loam, Loam	Min	Max	Min	Max	Min	Max	0.5	6.0
	50	100	0	50	0	20		

B.E. Materials should be lightly tracked into place in non-structural areas.

B.F. If material replacement is required in structural areas (Ex: below-grade SWM facilities in paved areas), material placement specifications, including materials type, mix ratio, compactive effort and required density should be determined by ECS. Technical recommendations should be sealed by ECS and submitted to the Township for approval.

C. If the field verified infiltration rates are excessively low (less than 0.1 in/hr):

C.A. Determine the extent of the materials exhibiting the low infiltration rates through a combination of visual-manual classification, hand probing, density testing, or other suitable methods as determined by the ECS.

C.B. Overexcavate the materials to the depth where the material type changes or a maximum depth of 2 feet, whichever is encountered first.

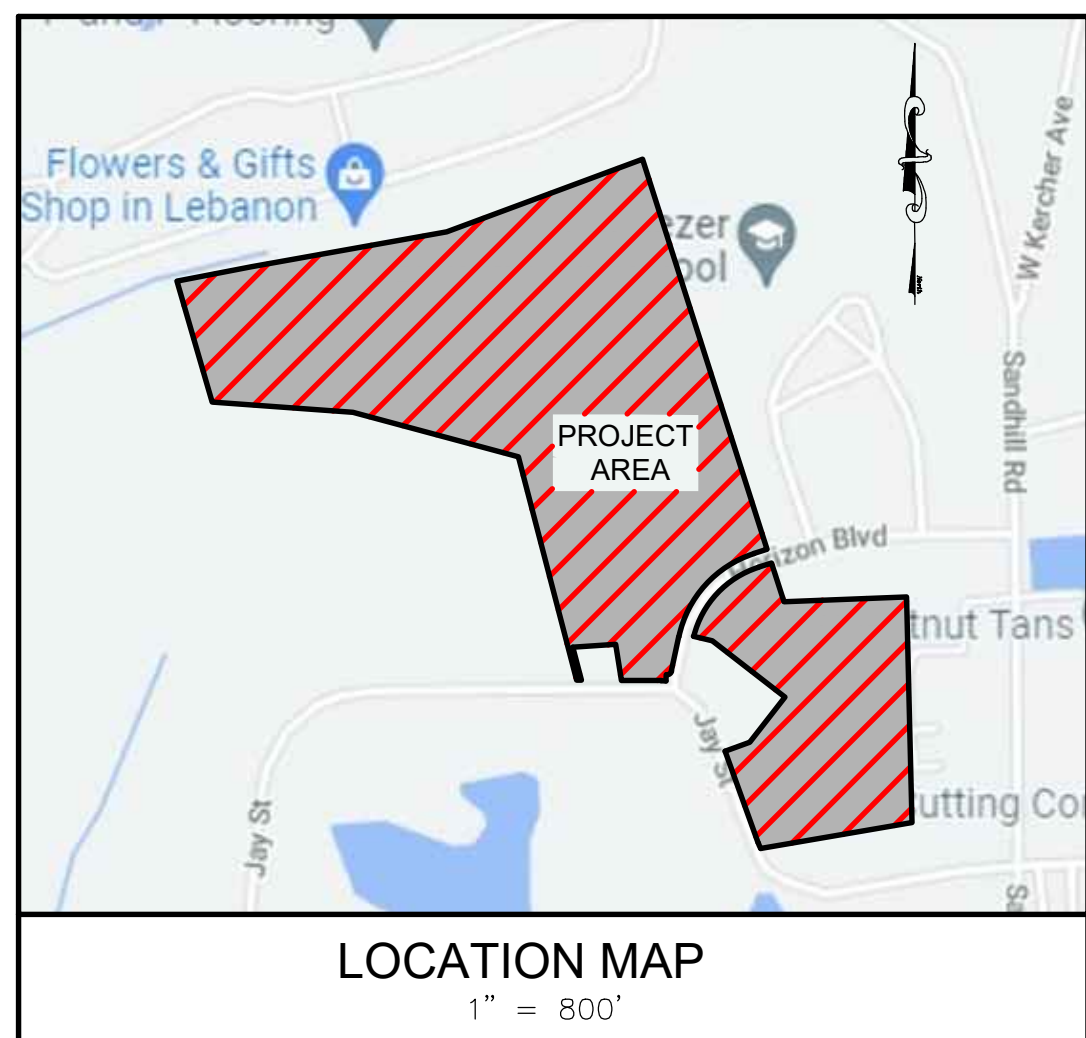
C.C. If bedrock is encountered, the rock should be removed to a minimum depth of 2 feet below the bottom of basin and should be examined by ECS, prior to replacement of suitable material.

C.D. Replace the excavated material with more coarsely grained materials approved by ECS. Suitable soil mixtures can consist of a blend of on-site and/or off-site materials available to the Contractor, and subject to testing and approval of ECS.

C.E. Suitable soil mixtures may consist of materials blended by volume ratios as determined by ECS.

C.F. Materials should be lightly tracked into place in non-structural areas.

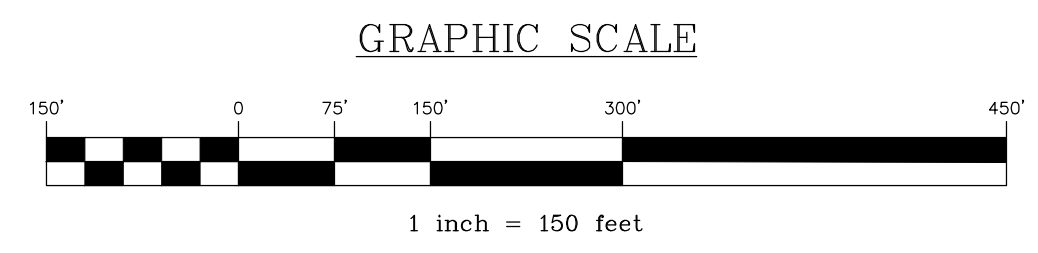
If material replacement is required in structural areas (Ex: below-grade SWM facilities in paved areas), material placement specifications, including materials type, mix ratio, compactive effort and required density should be determined by ECS. Suitable soil mixtures can consist of a blend of on-site and/or off-site materials available to the Contractor generally conforming to the table above, with field infiltration rates post placement determined and approved by ECS.



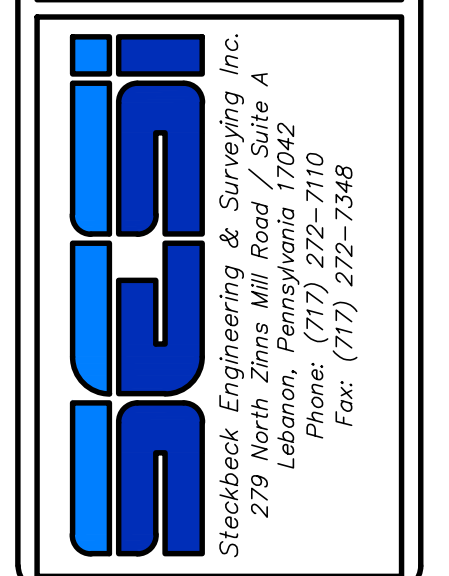
**LEGEND**

- |  |  |
|--|--|
| <p>EXISTING ADJOINER LINE</p> <p>EXISTING BOUNDARY LINE AND CORNERS</p> <p>EXISTING EDGE OF PAVEMENT AND CURB LINE</p> <p>EXISTING RIGHT-OF-WAY</p> <p>EXISTING FENCE</p> <p>EXISTING SEWER</p> <p>EXISTING STORMWATER</p> <p>EXISTING WATERLINE</p> <p>EXISTING GASLINE</p> <p>EXISTING SIDEWALK/CONCRETE</p> <p>EXISTING CONTOURS</p> <p>EXISTING TREELINE</p> <p>EXISTING TOWNSHIP BOUNDARY</p> <p>LIMITS OF FIELD SURVEY</p> <p>EXISTING SOILS</p> <p>EXISTING UTILITY POLE</p> <p>EXISTING LIGHT POLE</p> | <p>PROPOSED BUILDING SETBACK</p> <p>PROPOSED BOUNDARY LINE AND CORNERS</p> <p>PROPOSED EDGE OF PAVEMENT AND CURB LINE</p> <p>PROPOSED RIGHT-OF-WAY</p> <p>PROPOSED FENCE</p> <p>PROPOSED SEWER</p> <p>PROPOSED STORMWATER</p> <p>PROPOSED DOMESTIC WATERLINE</p> <p>PROPOSED GASLINE</p> <p>PROPOSED CONCRETE/SIDEWALK</p> <p>PROPOSED CONTOURS</p> <p>PROPOSED TREELINE</p> <p>PROPOSED UTILITY POLE</p> <p>PROPOSED LIGHT POLE</p> <p>NPDES BOUNDARY</p> <p>DISTURBANCE LIMITS</p> |
|--|--|

Map Symbol	Soil Name	Slope	Hydrologic Group
BeB	Bedington shaly silt loam	3-8%	B
BRB	Berks channery silt loam	3-8%	B
BAC	Berks channery silt loam	8-15%	B
BKD	Berks channery silt loam	15-25%	B
CmA	Comly silt loam	0-3%	C
WeC	Weikert channery silt loam	8-15%	D



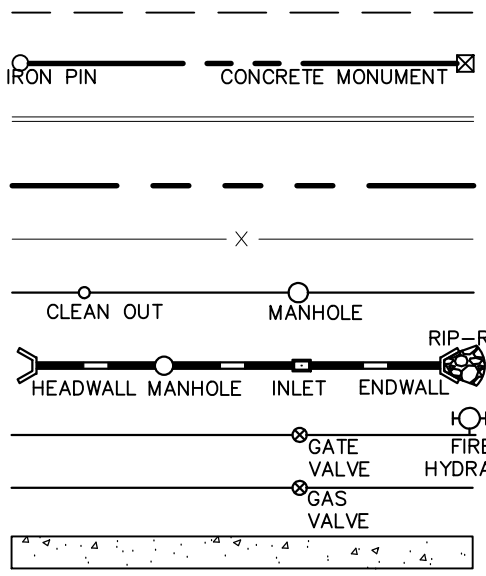
**OVERALL POST CONSTRUCTION STORMWATER MANAGEMENT PLAN**  
 PRELIMINARY SUBDIVISION  
 AND LAND DEVELOPMENT PLANS  
 For  
**THE ESTATES AT HEARTHIDE**  
located in  
 NORTH LEBANON TOWNSHIP  
 Lebanon County, Pennsylvania



FIELD CREW: MOD, JEC  
 BASE MAP: JEC  
 DRAWN: CDS  
 DESIGN: CDS  
 CHECKED: SAS  
 DATE: 11/4/22  
 SCALE: 1"=150'  
 PROJECT #784-22-001

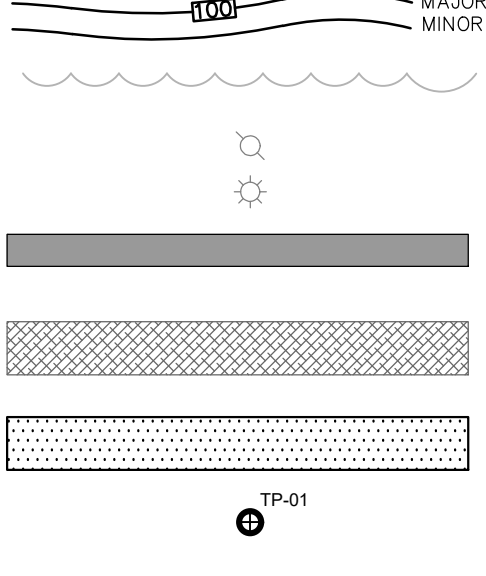
**LEGEND**

- EXISTING FEATURES**
- EXISTING ADJOINER LINE
  - EXISTING BOUNDARY LINE AND CORNERS
  - EXISTING EDGE OF PAVEMENT AND CURB LINE
  - EXISTING RIGHT-OF-WAY
  - EXISTING FENCE
  - EXISTING SEWER
  - EXISTING STORMWATER
  - EXISTING WATERLINE
  - EXISTING GASLINE
  - EXISTING SIDEWALK/CONCRETE
  - EXISTING CONTOURS
  - EXISTING TREELINE
  - EXISTING TOWNSHIP BOUNDARY
  - LIMITS OF FIELD SURVEY
  - EXISTING SOILS
  - EXISTING UTILITY POLE
  - EXISTING LIGHT POLE



**PROPOSED FEATURES**

- PROPOSED BUILDING SETBACK
- PROPOSED BOUNDARY LINE AND CORNERS
- PROPOSED EDGE OF PAVEMENT AND CURB LINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED FENCE
- PROPOSED SEWER
- PROPOSED STORMWATER
- PROPOSED DOMESTIC WATERLINE
- PROPOSED GASLINE
- PROPOSED CONCRETE/SIDEWALK

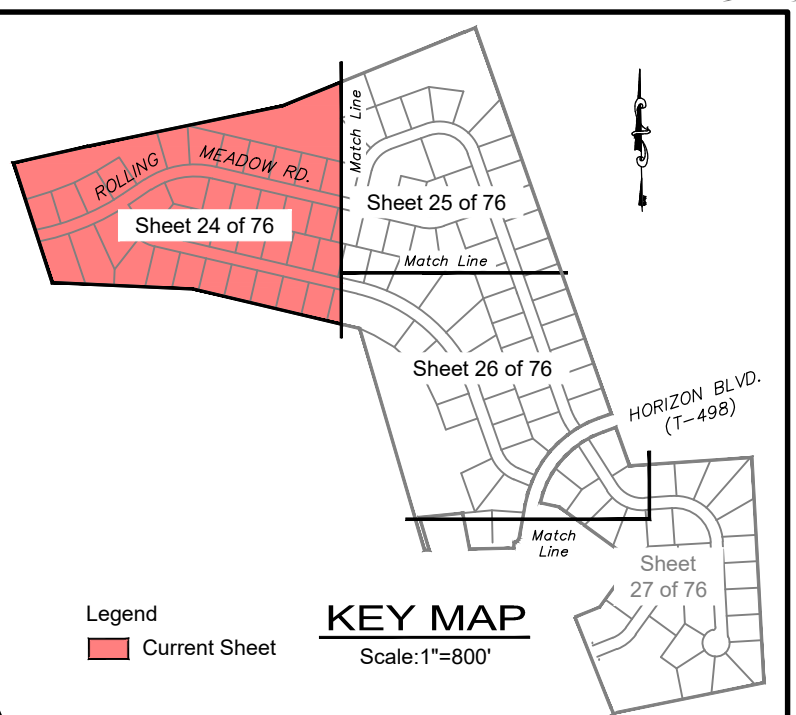
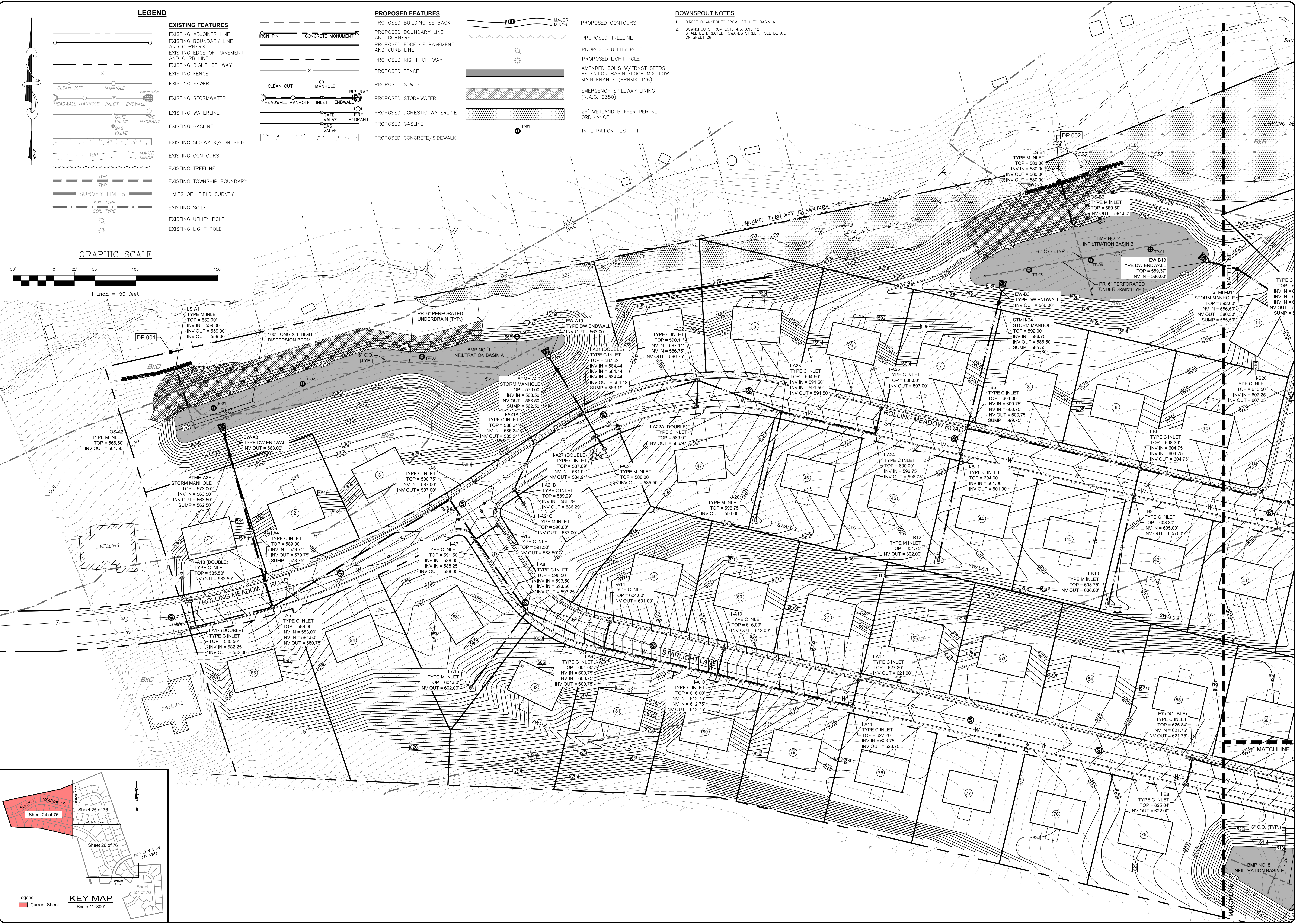
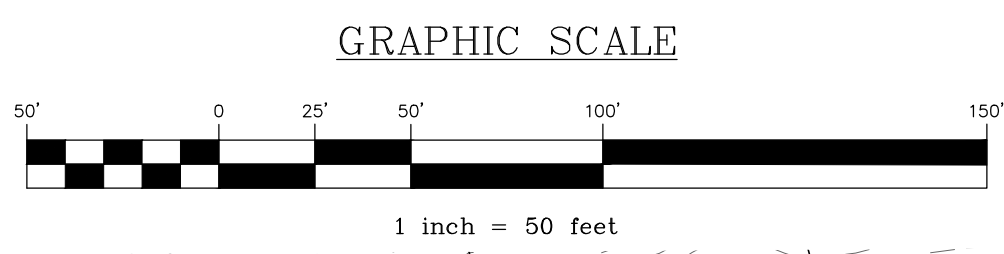


**PROPOSED CONTOURS**

- PROPOSED CONTOURS
- PROPOSED TREELINE
- PROPOSED UTILITY POLE
- PROPOSED LIGHT POLE
- AMENDED SOILS W/ERNST SEEDS
- RETENTION BASIN FLOOR MIX-LOW MAINTENANCE (ERNWX-126)
- EMERGENCY SPILLWAY LINING (N.A.G. C350)
- 25' WETLAND BUFFER PER NLT ORDINANCE
- INFILTRATION TEST PIT

**DOWNSPOUT NOTES**

- DIRECT DOWNSPOUTS FROM LOT 1 TO BASIN A.
- DOWNSPOUTS FROM LOTS 4, 5, AND 12 SHALL BE DIRECTED TOWARDS STREET. SEE DETAIL ON SHEET 25.



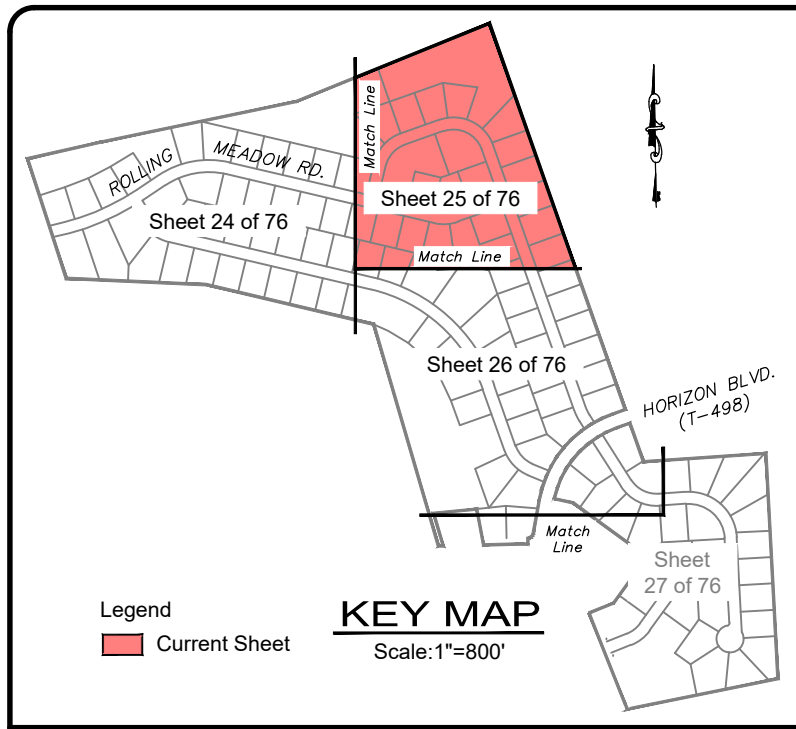
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REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS	
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS	
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG	

**POST CONSTRUCTION STORMWATER MANAGEMENT PLAN**  
 PRELIMINARY SUBDIVISION  
 For  
**THE ESTATES AT HEARTSIDE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

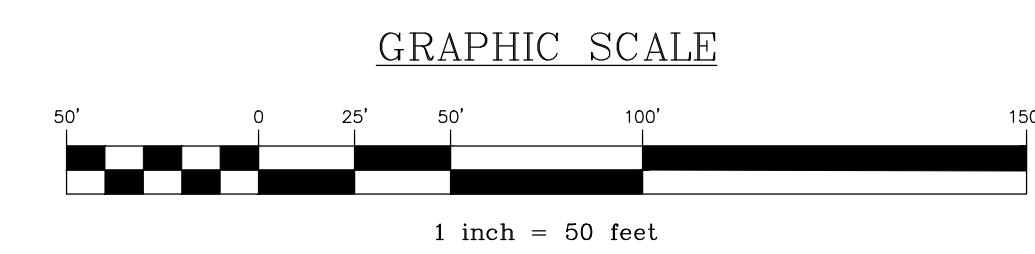
Steadbeck Engineering & Surveying, Inc.  
 279 Lebanon, Pennsylvania 17042  
 Phone: (717) 272-7100  
 Fax: (717) 272-7348

FIELD CREW: MOD,JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT # 784-22-001





- DOWNSPOUT NOTES**
- DIRECT DOWNSPOUTS FROM BACK HALF OF HOUSE ON LOT 13 TO BASIN C.
  - DIRECT DOWNSPOUTS FROM LOT 22 TO INLET F16.
  - DOWNSPOUTS FROM LOTS 21, 35, AND 58 SHALL BE DIRECTED TOWARDS STREET. SEE DETAIL ON SHEET 26.
  - DIRECT DOWNSPOUTS FROM BACK HALF OF HOUSE ON LOT 12 TO BASIN B.



**LEGEND**

EXISTING FEATURES	PROPOSED FEATURES
EXISTING ADJOINER LINE	PROPOSED BUILDING SETBACK
EXISTING BOUNDARY LINE AND CORNERS	PROPOSED BOUNDARY LINE AND CORNERS
EXISTING EDGE OF PAVEMENT AND CURB LINE	PROPOSED EDGE OF PAVEMENT AND CURB LINE
EXISTING RIGHT-OF-WAY	PROPOSED RIGHT-OF-WAY
EXISTING FENCE	PROPOSED FENCE
EXISTING SEWER	PROPOSED SEWER
EXISTING STORMWATER	PROPOSED STORMWATER
EXISTING WATERLINE	PROPOSED DOMESTIC WATERLINE
EXISTING GASLINE	PROPOSED GASLINE
EXISTING SIDEWALK/CONCRETE	PROPOSED CONCRETE/SIDEWALK
EXISTING CONTOURS	PROPOSED CONTOURS
EXISTING TREELINE	PROPOSED TREELINE
EXISTING TOWNSHIP BOUNDARY	PROPOSED UTILITY POLE
LIMITS OF FIELD SURVEY	PROPOSED LIGHT POLE
EXISTING SOILS	AMENDED SOILS W/ERNST SEEDS RETENTION BASIN FLOOR MIX-LOW MAINTENANCE (ERNMX-126)
EXISTING UTILITY POLE	EMERGENCY SPILLWAY LINING (N.A.G. C350)
EXISTING LIGHT POLE	25' WETLAND BUFFER PER NLT ORDINANCE
	INFILTRATION TEST PIT



REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER CPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**POST CONSTRUCTION STORMWATER MANAGEMENT PLAN**

PRELIMINARY SUBDIVISION  
For  
**THE ESTATES AT HEARTSIDE**  
located in  
NORTH LEBANON TOWNSHIP  
LEBANON County, Pennsylvania

CSI  
Steele Engineering & Surveying, Inc.  
279 Lebanon, Pennsylvania 17042  
Phone: (717) 272-7110  
Fax: (717) 272-7348

FIELD CREW: MOD/JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT #784-22-001

25

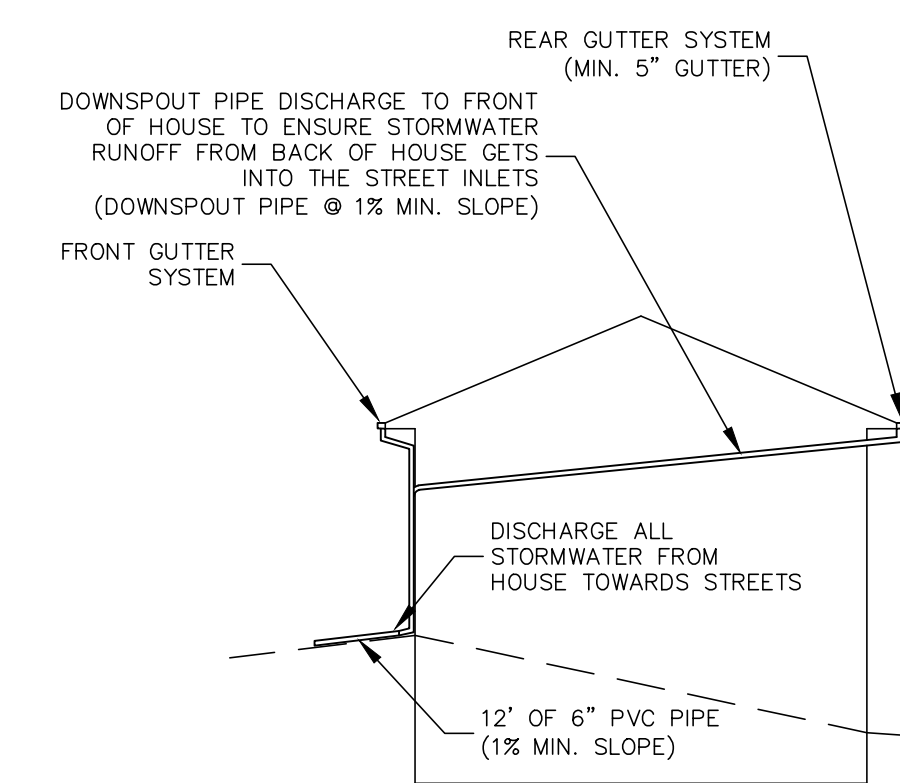
25 OF 76 SHEETS



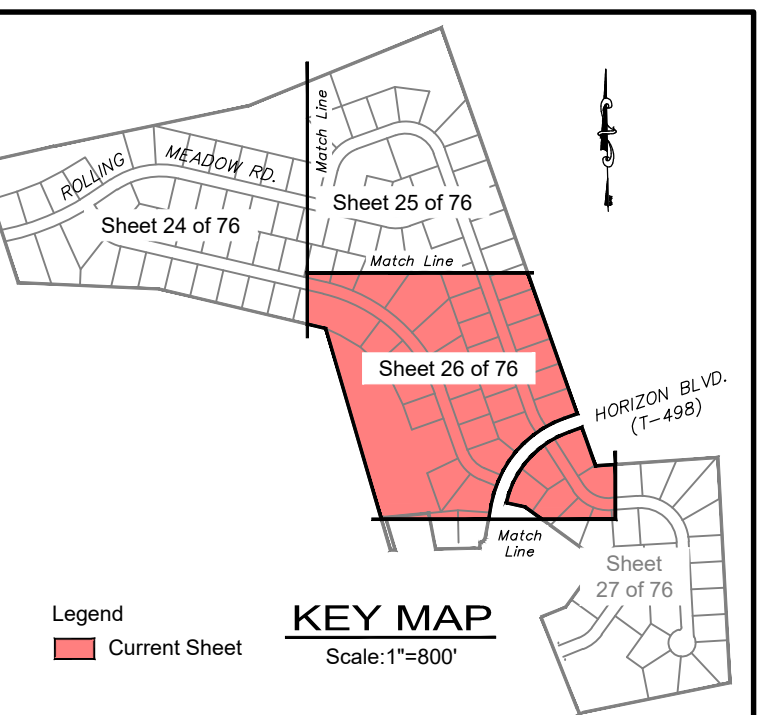
LEGEND		EXISTING FEATURES
	EXISTING ADJOINER LINE	EXISTING ADJOINER LINE
	EXISTING BOUNDARY LINE AND CORNERS	EXISTING BOUNDARY LINE AND CORNERS
	EXISTING EDGE OF PAVEMENT AND CURB LINE	EXISTING EDGE OF PAVEMENT AND CURB LINE
	EXISTING RIGHT-OF-WAY	EXISTING RIGHT-OF-WAY
	EXISTING FENCE	EXISTING FENCE
	EXISTING SEWER	EXISTING SEWER
	EXISTING STORMWATER	EXISTING STORMWATER
	EXISTING WATERLINE	EXISTING WATERLINE
	EXISTING GASLINE	EXISTING GASLINE
	EXISTING SIDEWALK/CONCRETE	EXISTING SIDEWALK/CONCRETE
	EXISTING CONTOURS	EXISTING CONTOURS
	EXISTING TREELINE	EXISTING TREELINE
	EXISTING TOWNSHIP BOUNDARY	EXISTING TOWNSHIP BOUNDARY
	EXISTING SOILS	EXISTING SOILS
	EXISTING UTILITY POLE	EXISTING UTILITY POLE
	EXISTING LIGHT POLE	EXISTING LIGHT POLE
	PROPOSED BUILDING SETBACK	PROPOSED BUILDING SETBACK
	PROPOSED BOUNDARY LINE AND CORNERS	PROPOSED BOUNDARY LINE AND CORNERS
	PROPOSED EDGE OF PAVEMENT AND CURB LINE	PROPOSED EDGE OF PAVEMENT AND CURB LINE
	PROPOSED RIGHT-OF-WAY	PROPOSED RIGHT-OF-WAY
	PROPOSED FENCE	PROPOSED FENCE
	PROPOSED SEWER	PROPOSED SEWER
	PROPOSED STORMWATER	PROPOSED STORMWATER
	PROPOSED DOMESTIC WATERLINE	PROPOSED DOMESTIC WATERLINE
	PROPOSED GASLINE	PROPOSED GASLINE
	PROPOSED CONCRETE/SIDEWALK	PROPOSED CONCRETE/SIDEWALK
	PROPOSED CONTOURS	PROPOSED CONTOURS
	PROPOSED TREELINE	PROPOSED TREELINE
	PROPOSED UTILITY POLE	PROPOSED UTILITY POLE
	PROPOSED LIGHT POLE	PROPOSED LIGHT POLE
	AMENDED SOILS W/ERNST SEEDS	AMENDED SOILS W/ERNST SEEDS
	RETENTION BASIN FLOOR MIX-LOW MAINTENANCE (ERNMX-126)	RETENTION BASIN FLOOR MIX-LOW MAINTENANCE (ERNMX-126)
	EMERGENCY SPILLWAY LINING (N.A.G. C350)	EMERGENCY SPILLWAY LINING (N.A.G. C350)
	25' WETLAND BUFFER PER NLT ORDINANCE	25' WETLAND BUFFER PER NLT ORDINANCE
	INFILTRATION TEST PIT	INFILTRATION TEST PIT

**DOWNSPOUT NOTES**

- DOWNSPOUTS FROM LOT 59 SHALL BE DIRECTED TOWARDS STREET. SEE DETAIL THIS SHEET.
- DOWNSPOUT FROM FRONT OF HOUSE ON LOT 74 SHALL DISCHARGE TO STREET. DOWNSPOUTS FROM BACK OF HOUSE ON LOT 74 SHALL DISCHARGE TO BASIN F.



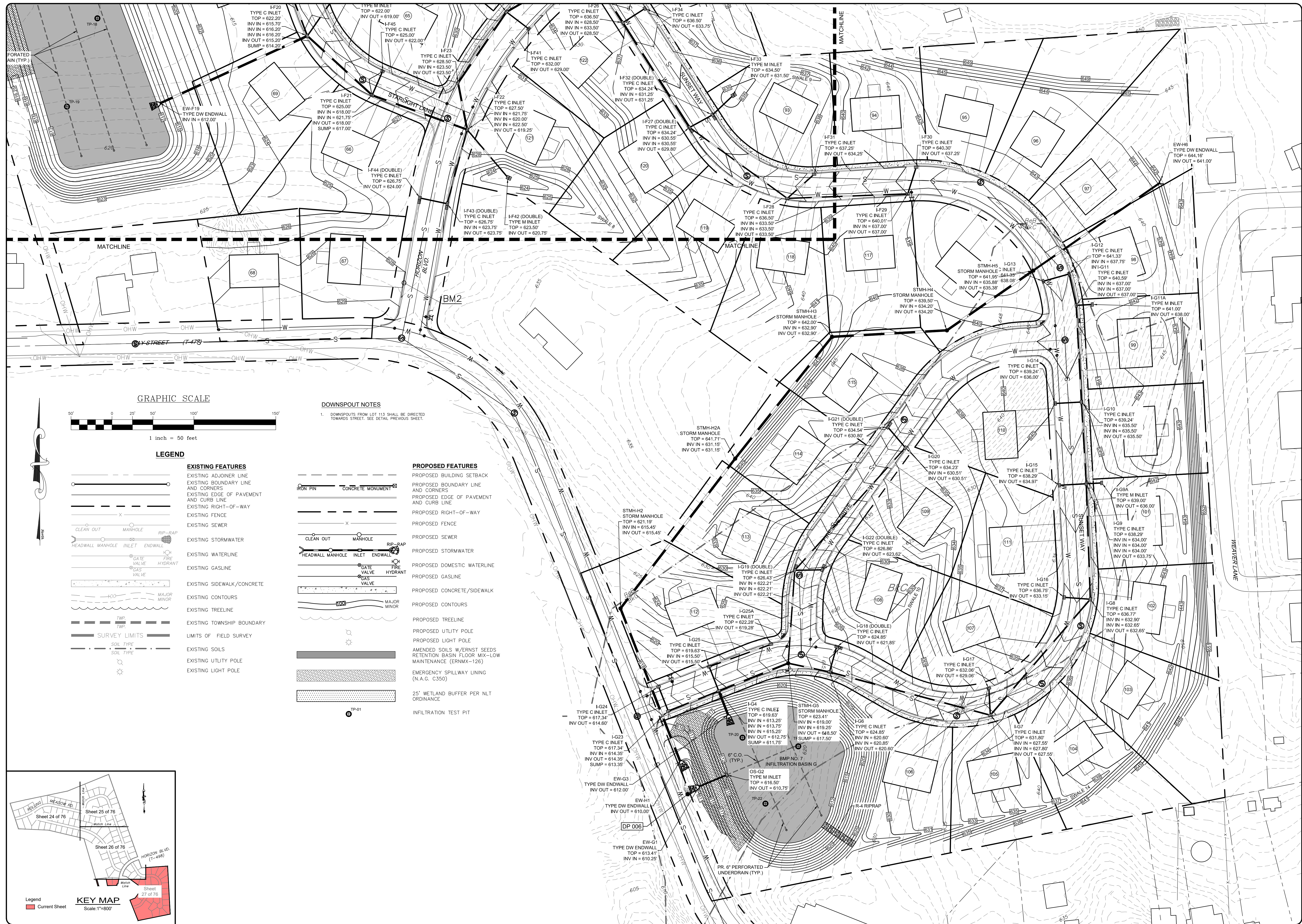
**DOWNSPOUTS TO FRONT DETAIL**  
NO SCALE



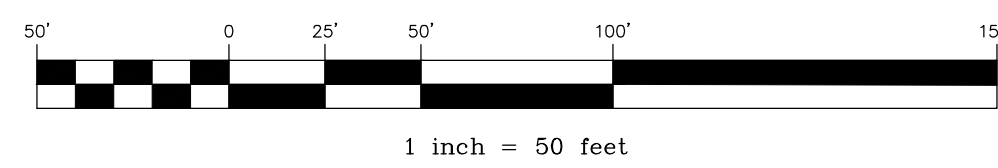
REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**POST CONSTRUCTION STORMWATER MANAGEMENT PLAN**  
 PRELIMINARY SUBDIVISION  
 THE ESTATES AT HEARTSIDE  
 NORTH LEBANON TOWNSHIP  
 LEBANON COUNTY, PENNSYLVANIA

FIELD CREW: MOD,JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT # 784-22-001



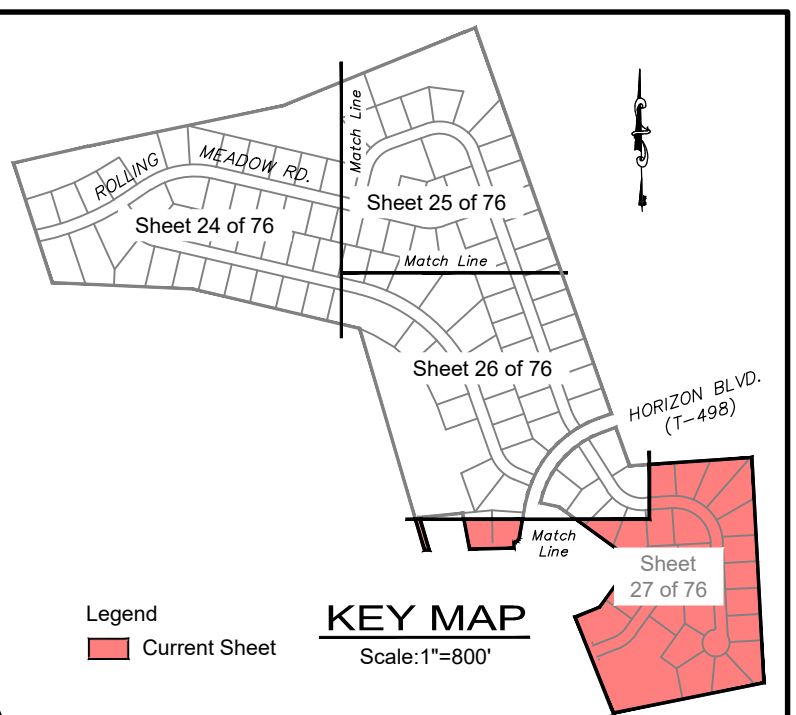
**GRAPHIC SCALE**



**LEGEND**

- |  |   |  |  |
|--|---|--|--|
|  | <b>EXISTING FEATURES</b>                |  | <b>PROPOSED FEATURES</b>   |
|  | EXISTING ADJOINER LINE                  |  | PROPOSED BUILDING SETBACK  |
|  | EXISTING BOUNDARY LINE AND CORNERS      |  | PROPOSED BOUNDARY LINE AND CORNERS   |
|  | EXISTING EDGE OF PAVEMENT AND CURB LINE |  | PROPOSED EDGE OF PAVEMENT AND CURB LINE  |
|  | EXISTING RIGHT-OF-WAY                   |  | PROPOSED RIGHT-OF-WAY  |
|  | EXISTING FENCE                          |  | PROPOSED FENCE   |
|  | EXISTING SEWER                          |  | PROPOSED SEWER   |
|  | EXISTING STORMWATER                     |  | PROPOSED STORMWATER  |
|  | EXISTING WATERLINE                      |  | PROPOSED DOMESTIC WATERLINE  |
|  | EXISTING GASLINE                        |  | PROPOSED GASLINE   |
|  | EXISTING SIDEWALK/CONCRETE              |  | PROPOSED CONCRETE/SIDEWALK   |
|  | EXISTING CONTOURS                       |  | PROPOSED CONTOURS  |
|  | EXISTING TREELINE                       |  | PROPOSED TREELINE  |
|  | EXISTING TOWNSHIP BOUNDARY              |  | PROPOSED UTILITY POLE  |
|  | LIMITS OF FIELD SURVEY                  |  | PROPOSED LIGHT POLE  |
|  | EXISTING SOILS                          |  | AMENDED SOILS W/ERNST SEEDS RETENTION BASIN FLOOR MIX-LOW MAINTENANCE (ERNM-126) |
|  | EXISTING UTILITY POLE                   |  | EMERGENCY SPILLWAY LINING (N.A.G. C350)  |
|  | EXISTING LIGHT POLE                     |  | 25' WETLAND BUFFER PER NLT ORDINANCE   |
|  |   |  | INFILTRATION TEST PIT  |

**DOWNSPOUT NOTES**  
 1. DOWNSPOUTS FROM LOT 113 SHALL BE DIRECTED TOWARDS STREET. SEE DETAIL PREVIOUS SHEET.



REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**POST CONSTRUCTION STORMWATER MANAGEMENT PLAN**  
 PRELIMINARY SUBDIVISION  
 For  
**THE ESTATES AT HEARSHIDE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

FIELD CREW:	MOD, JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1" = 50'
PROJECT #	784-22-001

POST CONSTRUCTION STORMWATER MANAGEMENT NARRATIVE  
MT. PLEASANT VENTURES SUBDIVISION

THIS NARRATIVE IS INTENDED TO ACCOUNT FOR THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN FOR THE PROPOSED PRELIMINARY LAND DEVELOPMENT PLAN FOR THE PLEASANT VENTURES SUBDIVISION, LOCATED ON BOTH SIDES OF HORIZON BOULEVARD BETWEEN JAY STREET AND GLOUCESTER DRIVE IN NORTH LEBANON TOWNSHIP, LEBANON COUNTY. THIS NARRATIVE SHALL BE CONSIDERED A PART OF THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN.

PROJECT DETAILS

THE TOTAL TRACT OF THE TWO PROPERTIES IN QUESTION IS APPROXIMATELY 70.93 ACRES. THE TOTAL SITE AND EARTH DISTURBANCE AS PART OF THIS PROJECT IS APPROXIMATELY 67.59 ACRES. THE CURRENT SITE AND EARTH DISTURBANCE INCLUDES THE EXISTING BUILDING AND ONE EXISTING BARN, BASED ON GOOGLE EARTH HISTORICAL IMAGERY. THE SITE HAS BEEN AGRICULTURAL SINCE THE EARLY 1990'S, BASED ON PENN PLOT HISTORICAL IMAGERY. THE SITE HAS BEEN AGRICULTURAL IN USE SINCE THE 1950'S. THE SITE IS SPLIT BY HORIZON BOULEVARD. THE NORTHERN PORTION OF THE SITE IS BORDERS THE HORNS OF HEMLOCK AND THE BRIDGEWAY ELEMENTARY SCHOOLS, TO THE SOUTH BY HORIZON BOULEVARD, TO THE WEST BY AGRICULTURAL AND RESIDENTIAL PROPERTY, AND TO THE NORTH BY RESIDENTIAL PROPERTIES. THE SOUTHERN PORTION OF THE SITE IS BORDERED TO THE EAST AND SOUTH BY HORIZON BOULEVARD. PROPOSED IMPROVEMENTS INCLUDE THE CONSTRUCTION OF 122 SINGLE-FAMILY HOMES WITH DRIVEWAYS, STREETS, CONNECTION TO PUBLIC SEWER AND WATER, AND ASSOCIATED STORMWATER MANAGEMENT FACILITIES. THE ANTICIPATED SITE DISTURANCE SHALL INCLUDE GRADING AS WELL AS ADDITIONAL IMPERVIOUS AREA WHICH WILL BE TREATED ON-SITE BY STORMWATER MANAGEMENT BMP'S, SIX (6) ABOVE GROUND INFILTRATION BASINS, AND ONE (1) DETENTION BASIN ARE PROVIDED TO MANAGE THE SITE RUNOFF. STORMWATER RUNOFF FROM THE SITE WILL REACH TWO DIFFERENT UNITS TO SWATARA CREEK AND AN EXISTING QUARRY POND WHICH IS CLOSEST TO THE BRANDYWINE CREEK. THE UNITS TO SWATARA CREEK ARE DESIGNATED AS MAJOR WATER FEATURES (MW) AND ARE IMPAIRED ACCORDING TO CATEGORY 4C OF THE PA INTEGRATED WATER QUALITY MONITORING AND ASSESSMENT REPORT FOR AQUATIC LIFE. AGRICULTURE, - FLOW REGIME MODIFICATION. THE UNITS TO SWATARA CREEK ARE ALSO IMPAIRED ACCORDING TO CATEGORY 4C OF THE PA INTEGRATED WATER QUALITY MONITORING AND ASSESSMENT REPORT FOR AQUATIC LIFE. AGRICULTURE - FLOW REGIME MODIFICATION. THE BRANDYWINE CREEK IS DESIGNATED AS TROUT STOCKED FISHES (TSF) AND ARE IMPAIRED ACCORDING TO CATEGORY 4C OF THE PA INTEGRATED WATER QUALITY MONITORING AND ASSESSMENT REPORT FOR AQUATIC LIFE. URBAN RUNOFF/STORM SEWERS FLOW REGIME MODIFICATION. THE BRANDYWINE CREEK IS ALSO IMPAIRED ACCORDING TO CATEGORY 3 OF THE PA INTEGRATED WATER QUALITY MONITORING AND ASSESSMENT REPORT FOR RECREATIONAL. SOURCE UNKNOWN - PATHOGENS.

CALCULATIONS

POST CONSTRUCTION STORMWATER MANAGEMENT FACILITIES WERE DESIGNED IN ACCORDANCE WITH THE STANDARDS ESTABLISHED IN THE PENNSYLVANIA STORMWATER MANAGEMENT BMP MANUAL (PA DEP BUREAU OF WATERSHED MANAGEMENT, DECEMBER 2006), PA CODE CHAPTER 102, AND THE NORTH LEBANON TOWNSHIP STORMWATER MANAGEMENT ORDINANCE (ORDINANCE NO. 6-2022).

HYDROLOGY

A STORMWATER MANAGEMENT CONTROL SYSTEM IS PROPOSED TO MINIMIZE THE ADDITIONAL RUNOFF VOLUME GENERATED BY THE PROPOSED IMPROVEMENTS. THE FLOW RATE LESSER THAN OR EQUAL TO THE PRE-DEVELOPMENT RUNOFF, FOLLOWING THE REQUIREMENTS OF THE PA CODE CHAPTER 102.8 AND THE NORTH LEBANON TOWNSHIP STORMWATER MANAGEMENT ORDINANCE. IN ORDER TO PROVIDE WATER QUALITY, VOLUME CONTROL, AND RATE CONTROL, THE SITE WILL BE SERVED BY ONE (1) DETENTION BASIN, AND SIX (6) INFILTRATION BASINS. THE DETENTION BASIN WILL SATISFY THE APPLICABLE STORMWATER MANAGEMENT RATES. THE INFILTRATION BASINS WILL BE DESIGNED TO INFLTRATE THE 2- TO 24-HOUR VOLUME INCREASE. THE CURVE NUMBERS ARE TAKEN FROM THE NORTH LEBANON TOWNSHIP SWM ORDINANCE, SUPPORTING CALCULATIONS CAN BE SEEN IN THE DEP PCSM SPREADSHEETS.

PER THE NORTH LEBANON TOWNSHIP STORMWATER MANAGEMENT ORDINANCE, THE SITE IS LOCATED WITHIN THE LEBANON COUNTY RESIDUAL - STORMWATER MANAGEMENT DISTRICT AND AS SUCH, POST-DEVELOPMENT DISCHARGE FLOW RATES MUST MEET THE FOLLOWING CRITERIA.

Table with 2 columns: Pre-Developed (2-year, 5-year, 10-year, 25-year, 100-year) and Post-Developed (<or= to 1.5x Pre, <or= to 2.0x Pre, <or= to 3.0x Pre, <or= to 25.0x Pre, <or= to 100.0x Pre).

THE SCS METHOD WAS USED TO DETERMINE PEAK FLOW RATES FOR BOTH PRE- AND POST-DEVELOPED CONDITIONS. THE RESULTING POST DEVELOPMENT RUNOFF FLOW RATES HAVE BEEN REDUCED TO REQUIRED PRE-DEVELOPMENT RELEASE RATES AS SHOWN IN THE TABLE ABOVE. THE POST DEVELOPMENT FACILITY WILL SATISFY THE APPLICABLE STORMWATER MANAGEMENT RATES. THE INFILTRATION BASINS WILL BE DESIGNED TO INFLTRATE THE 2- TO 24-HOUR VOLUME INCREASE. THE CURVE NUMBERS ARE TAKEN FROM THE NORTH LEBANON TOWNSHIP SWM ORDINANCE, SUPPORTING CALCULATIONS CAN BE SEEN IN THE DEP PCSM SPREADSHEETS.

THIS PCSM PLAN IS DESIGNED TO MINIMIZE ANY INCREASE IN STORMWATER RUNOFF VOLUME AND PREVENT AN INCREASE IN THE RATE OF STORMWATER RUNOFF. IN ORDER TO ANALYZE THE EFFECTIVENESS OF THE PROPOSED STORMWATER MANAGEMENT PLAN THE DRAINAGE PATTERN IS ANALYZED AS SIX (6) POINTS OF INTEREST.

DISCHARGE POINT 001-003 (DP 001-003) ARE LOCATED ADJACENT TO THE NORTHERN PROPERTY LINE AND WILL DISCHARGE TO THE UNIT TO SWATARA CREEK. DISCHARGE POINT 004 (DP 004) IS LOCATED ALONG THE WESTERN PROPERTY LINE WHERE WATERCOURSE 2 LEAVES THE SITE AT THE BOTTOM OF WETLAND 2. RUNOFF WILL DISCHARGE OVERLAND FOR APPROXIMATELY 1,750 FEET PRIOR TO REACHING AN UNIT TO SWATARA CREEK.

DISCHARGE POINT 005 (DP 005) IS LOCATED ALONG THE WESTERN PROPERTY LINE WHERE AN EXISTING BROAD DRAINAGE WAY LEAVES THE SITE. RUNOFF WILL DISCHARGE OVERLAND FOR APPROXIMATELY 1,750 FEET PRIOR TO REACHING AN UNIT TO SWATARA CREEK.

DISCHARGE POINT 006 (DP 006) IS LOCATED AT AN EXISTING 30" STORM PIPE CROSSING JAY STREET AT THE SOUTHWESTERN CORNER OF THE PROPERTY. RUNOFF REACHING THIS PIPE WILL DISCHARGE ACROSS THE STARLIGHT LANDING FLOW DOWN INTO THE EXISTING QUARRY POND.

THERMAL IMPACTS ANALYSIS

ALL EXISTING SITE RUNOFF CURRENTLY LEAVES THE SITE UN-DETAINED WITH NO TREATMENT OF THIS RUNOFF IN ANY WAY. STRUCTURAL BMP'S ARE PROPOSED TO TREAT THE MAJORITY OF THE DISTURBED AND IMPROVED IMPERVIOUS SURFACE RUNOFF. FOLLOWING THE REQUIREMENTS OF THE PA CODE CHAPTER 102.8 AND THE NORTH LEBANON TOWNSHIP STORMWATER MANAGEMENT ORDINANCE. IN ORDER TO PROVIDE WATER QUALITY, VOLUME CONTROL, AND RATE CONTROL, THE SITE WILL BE SERVED BY ONE (1) DETENTION BASIN, AND SIX (6) INFILTRATION BASINS. THE DETENTION BASIN WILL SATISFY THE APPLICABLE STORMWATER MANAGEMENT RATES. THE INFILTRATION BASINS WILL BE DESIGNED TO INFLTRATE THE 2- TO 24-HOUR VOLUME INCREASE. THE CURVE NUMBERS ARE TAKEN FROM THE NORTH LEBANON TOWNSHIP SWM ORDINANCE, SUPPORTING CALCULATIONS CAN BE SEEN IN THE DEP PCSM SPREADSHEETS.

THE SCSS METHOD WAS USED TO DETERMINE PEAK FLOW RATES FOR BOTH PRE- AND POST-DEVELOPED CONDITIONS. THE RESULTING POST DEVELOPMENT RUNOFF FLOW RATES HAVE BEEN REDUCED TO REQUIRED PRE-DEVELOPMENT RELEASE RATES AS SHOWN IN THE TABLE ABOVE. THE POST DEVELOPMENT FACILITY WILL SATISFY THE APPLICABLE STORMWATER MANAGEMENT RATES. THE INFILTRATION BASINS WILL BE DESIGNED TO INFLTRATE THE 2- TO 24-HOUR VOLUME INCREASE. THE CURVE NUMBERS ARE TAKEN FROM THE NORTH LEBANON TOWNSHIP SWM ORDINANCE, SUPPORTING CALCULATIONS CAN BE SEEN IN THE DEP PCSM SPREADSHEETS.

PROPOSED BEST MANAGEMENT PRACTICES

-INFILTRATION BASIN - ONE (1) DETENTION BASIN WILL BE UTILIZED TO PROMOTE INFILTRATION, EVAPORATION, AND EVAPOTRANSPIRATION AND CONTROL FLOW AND VOLUME LEAVING THE SITE. -DETENTION BASIN - ONE (1) DETENTION BASIN WILL BE UTILIZED TO PROMOTE EVAPORATION, AND EVAPOTRANSPIRATION AND CONTROL FLOW AND VOLUME LEAVING THE SITE.

OFFSITE DISCHARGE ANALYSIS

THE FOLLOWING IS AN EXCERPT FROM THE PA DEP PAO SHEET LABELED CHAPTER 102 OFF-SITE DISCHARGES OF STORMWATER TO NON-SURFACE WATERS (ANNEX 2). DRAINAGE DRAINAGE TRENCHES SHALL BE DESIGNED TO TREAT THE MAJORITY OF THE DISTURBED AND IMPROVED IMPERVIOUS SURFACE RUNOFF. FOLLOWING THE REQUIREMENTS OF THE PA CODE CHAPTER 102.8 AND THE NORTH LEBANON TOWNSHIP STORMWATER MANAGEMENT ORDINANCE. IN ORDER TO PROVIDE WATER QUALITY, VOLUME CONTROL, AND RATE CONTROL, THE SITE WILL BE SERVED BY ONE (1) DETENTION BASIN, AND SIX (6) INFILTRATION BASINS. THE DETENTION BASIN WILL SATISFY THE APPLICABLE STORMWATER MANAGEMENT RATES. THE INFILTRATION BASINS WILL BE DESIGNED TO INFLTRATE THE 2- TO 24-HOUR VOLUME INCREASE. THE CURVE NUMBERS ARE TAKEN FROM THE NORTH LEBANON TOWNSHIP SWM ORDINANCE, SUPPORTING CALCULATIONS CAN BE SEEN IN THE DEP PCSM SPREADSHEETS.

THE SITE DISCHARGES IN A SIMILAR MANNER TO ALL DISCHARGE POINTS AT A RATE THAT IS LESS THAN PRE-DEVELOPMENT.

CHAPTER 102.8 (B) ANALYSIS

THE STREAM CHANNEL IS PROTECTED BY THE FLOW REDUCTION PROVIDED FROM THE PROPOSED STORMWATER MANAGEMENT FACILITIES. THE STRUCTURAL BMP'S ALLOWS FOR REDUCED FLOW TO ALL DISCHARGE POINTS, AND THEREFORE THE DOWNSTREAM CHANNEL WILL NOT BE IMPAIRED. THE SAME FLOW REDUCTION AND WATER QUALITY BENEFITS PROVIDED BY THE STRUCTURAL AND NON-STRUCTURAL BMP'S WILL ALSO APPLY TO PROTECT THE EXISTING DRAINAGE FEATURES AND DOWNSTREAM VEGETATION.

SOIL INFORMATION AND GEOLOGY

THE FOLLOWING SOILS ARE FOUND WITHIN OR ADJACENT TO THE AREA TO BE DISTURBED BY EARLY MOVING ACTIVITIES. THESE SOILS CAN ERODE WHEN DISTURBED. EROSION WILL BE CONTROLLED WITH STANDARD EROSION CONTROLS SUCH AS FILTER SOCK, SLOPE AND SWALE MATING, RIPRAP OUTLET PROTECTION, INLET PROTECTION, EROSION CONTROL, AND SEDIMENTATION.

Soil Classification Table with columns: Map Symbol, Soil Name, Slope, Hydrologic Group. Includes entries like Bcd, BcK, BcL, CwA, WcC.

\*IF SOILS ARE BOLD THEY ARE DISTURBED DURING CONSTRUCTION ON THIS PROJECT.

THE PA DEP'S EMAPPA DOES NOT IDENTIFY ANY KNOWN KARST FEATURES ON SITE OR IN THE IMMEDIATE VICINITY OF THE PA DEJECT. THE ENTIRE SITE IS UNDERLAIN BY THE HAMBURG SEQUENCE ROCKS AND THE GRAYWACKE OF HAMBURG SEQUENCE ROCKS WHICH ARE COMPRISED OF SHALE, SILTSTONE, BEAUCONTE SHALE, SANDSTONE AND CONGLOMERATE. A GEOTECHNICAL HAZARD BEING EVALUATED BY THE COUNTY CONSERVATION DISTRICT WILL BE IMMEDIATELY CONTACTED, AND A CERTIFIED GEOTECHNICAL ADVISOR WILL BE REQUIRED TO OVERSEE MITIGATION OF THE HAZARDS.

THE UNDERDRAIN SERIES CONSISTS OF VERY DEEP, WELL-DRAINED SOILS. BEDINGTON SOILS FORMED IN RESIDUUM FROM DARK BROWN, GRAY AND OLIVE ALOID, SEDIMENTARY, SILTSTONE AND SHALE, WITH SOME SANDSTONE INTERBEDS. THEY ARE ON NEARLY LEVEL TO STEEP CONVEY UPLANDS AND ON THE SIDESLOPES OF HILLS AND RIDGES. PERMEABILITY IS MODERATE. MEAN ANNUAL PRECIPITATION IS 42 INCHES. MEAN ANNUAL TEMPERATURE IS 53 DEGREES F. BEDINGTON SOILS MAY BE SUSCEPTIBLE TO CUT BANKS AND CAVE INS AND CORROSIIVE TO CONCRETE. THIS SOIL MAY ALSO BE SUSCEPTIBLE TO DROUGHT AND MAY BE EASILY ERODEBLE. BEDINGTON SOILS MAY ALSO BE SUSCEPTIBLE TO HYDRIC INCLUSIONS, SLOW PERCOLATION, FROST ACTION, AND A POOR SOURCE OF TOPSOIL.

BERKS SOILS - THE BERKS SERIES CONSISTS OF MODERATELY DEEP, WELL-DRAINED SOILS FORMED IN RESIDUUM WEATHERED FROM SHALE, SILTSTONE AND FINE-GRAINED SANDSTONE ON ROUNDED AND DISSECTED UPLANDS. SLOPE RANGES FROM 0 TO 80 PERCENT. PERMEABILITY IS MODERATE OR MODERATELY RAPID. MEAN ANNUAL PRECIPITATION IS 42 INCHES. MEAN ANNUAL TEMPERATURE IS 52 DEGREES F. BERKS SOILS MAY BE SUSCEPTIBLE TO CUT BANKS AND CAVE INS, CORROSIIVE TO CONCRETE, DROUGHT, AND EASILY ERODEBLE. THIS SOIL MAY ALSO BE SUSCEPTIBLE TO HYDRIC INCLUSIONS, SLOW PERCOLATION, PIPING, FROST ACTION, AND A POOR SOURCE OF TOPSOIL.

THE COMLY SERIES CONSISTS OF VERY DEEPLY DEVELOPED THESE SOILS FORMED COLLUVIUM WEATHERED FROM ADO BROWN AND GRAY SHALE, SANDSTONE, AND SILTSTONE. THEY ARE ON CONCAVE UPLAND SLOPES OF 0 TO 25 PERCENT. PERMEABILITY IS MODERATE ABOVE AND FRAGIPAN AND MODERATELY SLOW IN THE FRAGIPAN. MEAN ANNUAL PRECIPITATION IS 44 INCHES. MEAN ANNUAL TEMPERATURE IS 51 DEGREES F. COMLY SOILS MAY BE SUSCEPTIBLE TO CUT BANKS AND CAVE INS, CORROSIIVE TO STEEL, AND CONCRETE. DROUGHT, AND EASILY ERODEBLE. THESE SOILS MAY ALSO BE SUSCEPTIBLE TO A SEASONALLY HIGH WATER TABLE, HYDRIC INCLUSIONS, PIPING, FROST ACTION, AND A POOR SOURCE OF TOPSOIL.

WEIKERT SOILS - THE WEIKERT SERIES CONSIST OF SHALLOW, WELL-DRAINED SOILS FORMED IN MATERIAL THAT WEATHERED FROM INTERBEDDED GRAY AND BROWN ALOID SHALE, SILTSTONE, AND FINE-GRAINED SANDSTONE ON GENTLY SLOPING TO VERY STEEP AREAS ON UPLANDS. SLOPE RANGES FROM 0 TO 100 PERCENT. PERMEABILITY IS MODERATE TO RAPID. MEAN ANNUAL PRECIPITATION IS 42 INCHES. MEAN ANNUAL TEMPERATURE IS ABOUT 52 DEGREES F. WEIKERT SOILS MAY BE SUSCEPTIBLE TO CUT BANKS AND CAVE INS, CORROSIIVE TO CONCRETE AND STEEL, AND DROUGHT. THIS SOIL MAY ALSO BE SUSCEPTIBLE TO HYDRIC INCLUSIONS, LOW STRENGTH, SLOW PERCOLATION, PIPING, FROST ACTION, AND A POOR SOURCE OF TOPSOIL.

SOIL USE LIMITATIONS AND RESOLUTIONS

- CUT-BANK CAVING: ALL APPLICABLE OSHA STANDARDS AND REGULATIONS SHALL BE IMPLEMENTED AT ALL TIMES DURING TRENCHING AND EXCAVATION OPERATIONS. -CORROSION OF STEEL AND CONCRETE: ALL UNDERGROUND FOUNDATIONS AND STRUCTURES SHALL BE PROPERLY PROTECTED AGAINST CORROSION, WHICH MAY INCLUDE COATING THESE STRUCTURES WITH CORROSION-RESISTANT MATERIAL. -EASILY ERODEBLE: EROSION AND SEDIMENT POLLUTION CONTROLS WILL BE IMPLEMENTED TO AVOID THE TRANSPORTATION OF SEDIMENT-LADEN WATER OFF-SITE. -DEPTH TO SATURATED ZONE/SEASONAL HIGH WATER TABLE: THE SITE MAY REQUIRE DEWATERING OF PITS DURING CONSTRUCTION, I.E. WHEN POURING FOOTERS, EXCAVATING TRENCHES, DRAINAGE BASINS, ETC. THE GEOTECHNICAL REPORT DID NOT IDENTIFY ANY AREAS OF HIGH GROUNDWATER, IF DEWATERING IS REQUIRED, A SUMP PIT AND FILTER BAG SHALL BE UTILIZED, AND WATER SHALL BE PUMPED TO AN INLET TO THE TOPSOIL STORAGE AREA. A LICENSED PROFESSIONAL OR DESIGNED AS SUCH WILL BE REQUIRED TO OVERSEE MITIGATION OF THE HAZARDS. -HYDRIC SOILS/HYDRIC INCLUSIONS: A WETLAND FIELD SURVEY WAS CONDUCTED AND VARIOUS WETLANDS ARE LOCATED ON SITE. MINIMAL DISTURBANCE WILL TAKE PLACE IN WETLANDS A FOR THE CONSTRUCTION OF STREETS WITH ASSOCIATED CULVERTS TO MAINTAIN HYDRAULIC CONVEYANCE. -LOW STRENGTH/LANDSLIDE PRONE: THE MAXIMUM PROPOSED SLOPE ON THE SITE IS 3:1. THIS WILL REDUCE THE POTENTIAL FOR EROSION AND LAND SLIDE ACTION. ALL PROPOSED BERMS SHALL BE COMPACTED FULLY IN ORDER TO PROTECT AGAINST LANDSLIDES, AND SHALL BE STABILIZED WITH PERMANENT VEGETATION. -SLOW PERCOLATION: ADEQUATE PRECAUTIONS WILL BE TAKEN TO ENSURE THAT THE PCSM BMP'S INFILTRATE WITHIN THE REQUIRED TIME PERIOD, INCLUDING INFILTRATION TESTING AND SOIL MODIFICATION/UNDERDRAIN INSTALLATION, IF NECESSARY. INFILTRATION TESTS PREVIOUSLY PERFORMED INDICATED THAT THE INFILTRATION BASINS WOULD BE ADEQUATE IN THE PROPOSED INFILTRATION FACILITIES. A DETENTION BASIN IS PROPOSED IN THE AREA WHERE INFILTRATION TESTING YIELDED NEGLOGIBLE RESULTS. -PIPING: ANTI-SEEP COLLARS WILL BE PROVIDED AS PART OF THE PCSM AND PIPELINE DESIGNS. -POOR SOURCE OF TOPSOIL: THE ADEQUACY OF THE TOPSOIL WILL BE TESTED UPON THE COMMENCEMENT OF EXCAVATION. AS THE ENTIRE SITE IS AN AGRICULTURAL FIELD, THE TOPSOIL IS EXPECTED TO BE SUFFICIENT. -FROST ACTION: ALL IMPERVIOUS SURFACES SHALL BE GRADED AT A MINIMUM OF 1% IN ONE DIRECTION, SO THAT WATER WILL NOT COLLECT ON

THE SURFACE AND CAUSE DAMAGE DURING FREEZE/THAW CYCLES. CRACKS WHICH DEVELOP IN THE IMPERVIOUS SURFACES SHALL BE PROMPTLY SEALED.

- SHRINK/SWELL: ALL SITE GRADING SHALL DRECT WATER AWAY FROM BUILDINGS AND OTHER IMPERVIOUS SURFACES TO REDUCE THE LIKELIHOOD OF WATER INFILTRATING NEAR OR UNDER THESE STRUCTURES. -SINGLEHOLE FORMATION: THE PA DEP'S EMAPPA DOES NOT IDENTIFY ANY KNOWN KARST FEATURES ON SITE OR IN THE IMMEDIATE VICINITY OF THE PROJECT. THE ENTIRE SITE IS UNDERLAIN BY THE HAMBURG SEQUENCE ROCKS AND THE GRAYWACKE OF HAMBURG SEQUENCE ROCKS WHICH ARE COMPRISED OF SHALE, SILTSTONE, AND GRAYWACKE. AS SUCH, THE POTENTIAL FOR HARST ACTIVITY IS MINIMAL. SHOULD A GEOTECHNICAL HAZARD BE ENCOUNTERED, THE COUNTY CONSERVATION DISTRICT WILL BE IMMEDIATELY CONTACTED, AND A CERTIFIED GEOTECHNICAL ADVISOR WILL BE REQUIRED TO OVERSEE MITIGATION OF THE HAZARDS. -WETNESS: THE SITE MAY REQUIRE DEWATERING OF PITS DURING CONSTRUCTION, I.E. WHEN POURING FOOTERS, DEWATERING BASINS, ETC. SHOULD DEWATERING BE REQUIRED, A SUMP PIT AND FILTER BAG SHALL BE UTILIZED, AND WATER SHALL BE PUMPED TO AN UNDISTURBED AREA UPSTREAM OF A PERMETER CONTROL (FILTER SOCK).

GENERAL SOIL NOTES

1. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL NEED TO HAVE APPROPRIATE EAS CONTACTS.
2. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL MATERIALS WILL BE TREATED ON-SITE BY STORMWATER MANAGEMENT BMP'S. SIX (6) ABOVE GROUND INFILTRATION BASINS, AND ONE (1) DETENTION BASIN ARE PROVIDED TO MANAGE THE SITE RUNOFF. STORMWATER RUNOFF FROM THE SITE WILL REACH TWO DIFFERENT UNITS TO SWATARA CREEK AND AN EXISTING QUARRY POND WHICH IS CLOSEST TO THE BRANDYWINE CREEK. THE UNITS TO SWATARA CREEK ARE DESIGNATED AS MAJOR WATER FEATURES (MW) AND ARE IMPAIRED ACCORDING TO CATEGORY 4C OF THE PA INTEGRATED WATER QUALITY MONITORING AND ASSESSMENT REPORT FOR AQUATIC LIFE. AGRICULTURE, - FLOW REGIME MODIFICATION. THE UNITS TO SWATARA CREEK ARE ALSO IMPAIRED ACCORDING TO CATEGORY 4C OF THE PA INTEGRATED WATER QUALITY MONITORING AND ASSESSMENT REPORT FOR AQUATIC LIFE. AGRICULTURE - FLOW REGIME MODIFICATION. THE BRANDYWINE CREEK IS DESIGNATED AS TROUT STOCKED FISHES (TSF) AND ARE IMPAIRED ACCORDING TO CATEGORY 4C OF THE PA INTEGRATED WATER QUALITY MONITORING AND ASSESSMENT REPORT FOR AQUATIC LIFE. URBAN RUNOFF/STORM SEWERS FLOW REGIME MODIFICATION. THE BRANDYWINE CREEK IS ALSO IMPAIRED ACCORDING TO CATEGORY 3 OF THE PA INTEGRATED WATER QUALITY MONITORING AND ASSESSMENT REPORT FOR RECREATIONAL. SOURCE UNKNOWN - PATHOGENS.
3. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
4. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
5. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
6. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
7. THE LOCAL CONSERVATION DISTRICT SHALL BE CONTACTED IF SEEPS OR SPRINGS ARE ENCOUNTERED AND THE DESIGNS ARE ALTERED DURING CONSTRUCTION, AND THEY SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.

INFILTRATION TESTING REQUIREMENTS

INFILTRATION TESTING HAS BEEN CONDUCTED AND HAS YIELDED FAVORABLE RESULTS IN THE PROPOSED INFILTRATION FACILITIES. INFILTRATION RATES WERE NEGLOGIBLE IN THE AREA OF DETENTION BASIN D, AS SUCH, THE BASIN IS NOT DESIGNED FOR INFILTRATION. PLEASE REFER TO THE GEOTECHNICAL ENGINEERING REPORT FOR STORMWATER MANAGEMENT FOUND LATER IN THIS REPORT FOR FURTHER DISCUSSION AND RESULTS.

OWNERSHIP, OPERATIONS AND MAINTENANCE

SHORT-TERM OWNERSHIP, OPERATIONS AND MAINTENANCE OF THE PCSM BMP'S IS THE RESPONSIBILITY OF THE CONTRACTOR (UNKNOWN AT THIS TIME), WHO SHALL BE LISTED AS THE CO-PERMITTEE ON THE NPDES PERMIT. LONG-TERM OWNERSHIP, OPERATIONS AND MAINTENANCE OF THE PCSM BMP'S IS THE RESPONSIBILITY OF THE PROPERTY OWNER HEREIN IDENTIFIED AS MT. PLEASANT VENTURES, LLC.

INDIVIDUAL BMP DESCRIPTION, CONSTRUCTION SEQUENCE, AND MAINTENANCE

GENERAL OVERALL BMP DESCRIPTION

INFILTRATION BASIN

AN INFILTRATION BASIN IS A SHALLOW IMPOUNDMENT THAT STORES AND INFILTRATES RUNOFF OVER A LEVEL, UN-COMPACTED (PREFERABLY UNDISTURBED AREA) WITH RELATIVELY PERMEABLE SOILS.

SIX (6) INFILTRATION BASINS WILL BE LOCATED ON SITE. THE BOTTOMS WILL BE CONSTRUCTED WITH AN ENGINEERED SOIL MIXTURE TO ASSIST IN THE WATER QUALITY IMPROVEMENT. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE. ALL DEBRIS AND WASTES SHALL BE RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 2601 ET SEQ., 271.L, AND 287.1 ET SEQ. NO BUILDING MATERIALS OR WASTE SHALL BE BURNED, INCINERATED, OR DISCHARGED AT THE SITE. WASTE MATERIALS WITH OR FROM THE POST CONSTRUCTION STORMWATER MANAGEMENT (PCSM) BEST MANAGEMENT PRACTICES (BMP'S):

CONSTRUCTION SEQUENCE

1. PROTECT INFILTRATION BASIN AREA FROM COMPACTION PRIOR TO INSTALLATION.
2. IF POSSIBLE, INSTALL INFILTRATION BASIN DURING THE LATER PHASES OF SITE CONSTRUCTION TO PREVENT SEDIMENTATION AND/OR DAMAGE FROM CONSTRUCTION ACTIVITY. AFTER INSTALLATION, PREVENT SEDIMENT LADEN WATER FROM ENTERING INLETS AND PIPES.
3. INSTALL AND MAINTAIN PROPER EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION.
4. IF NECESSARY, EXCAVATE INFILTRATION BASIN BOTTOM TO AN UNCOMPACTED SUBGRADE FREE FROM ROCKS AND DEBRIS. DO NOT COMPACT SUBGRADE.
5. INSTALL OUTLET CONTROL STRUCTURES.
6. SEED AND STABILIZE TOPSOIL. (VEGETATE IF APPROPRIATE WITH NATIVE PLANTINGS)
7. DO NOT REMOVE INLET PROTECTION OR OTHER EROSION AND SEDIMENT CONTROL MEASURES UNTIL SITE IS FULLY STABILIZED.

MAINTENANCE AND INSPECTION

1. WHILE VEGETATION IS BEING ESTABLISHED, PRUNING AND WEEDING MAY BE REQUIRED.
2. DETRIUS MAY ALSO NEED TO BE REMOVED EVERY YEAR. PERENNIAL PLANTINGS MAY BE CUT DOWN AT THE END OF THE GROWING SEASON.
3. AREAS SHOULD BE INSPECTED AT LEAST TWO TIMES PER YEAR FOR SEDIMENT BUILDUP, EROSION VEGETATIVE CONDITIONS ETC.
4. DURING PERIODS OF EXTENDED DROUGHT, AREAS MAY REQUIRE WATERING.
5. CATCH BASINS AND INLETS (UPGRADED OF INFILTRATION FACILITY) SHOULD BE INSPECTED AND CLEANED AT LEAST TWO TIMES PER YEAR AFTER MAJOR RUNOFF EVENTS (> 1-INCH RAINFALL DEPTH).
6. THE VEGETATION ALONG THE SURFACE OF THE INFILTRATION FACILITY SHALL BE MAINTAINED IN GOOD CONDITION, AND ANY BARE SPOTS SHALL BE RE-VEGETATED AS SOON AS POSSIBLE.
7. VEHICLES SHOULD NOT BE PARKED OR DRIVEN OVER AN INFILTRATION AREA, AND CARE SHOULD BE TAKEN TO AVOID EXCESSIVE COMPACTION BY MOWERS.
8. INSPECT THE FACILITY AFTER RUNOFF EVENTS AND MAKE SURE THAT RUNOFF DRAINS DOWN WITHIN 72 HOURS. MOSQUITO/TREES SHOULD NOT BE A PROBLEM IF THE WATER DRAINS IN 72 HOURS. MOSQUITOES REQUIRE A CONSIDERABLY LONG BREEDING PERIOD WITH RELATIVELY STATIC WATER LEVELS.
9. ALSO INSPECT FOR ACCUMULATION OF SEDIMENT, DAMAGE TO OUTLET CONTROL STRUCTURES, EROSION CONTROL MEASURES, SIGNS OF WATER CONTAMINATION/SPILLS, AND SOIL STABILITY IN THE BERMS.
10. THE SEED MIXTURE PLANTED IN THE BOTTOM OF THE BASINS SHALL BE MOVED DOWN TO A HEIGHT OF 8-INCHES WHEN IT REACHES A HEIGHT OF 24-INCHES DURING THE FIRST FULL GROWING SEASON ONLY. IN ALL SUBSEQUENT YEARS, ANY MATERIAL STILL STANDING FROM THE PREVIOUS GROWING SEASON SHALL BE MOVED IN EARLY SPRING TO A HEIGHT OF 2-INCHES PRIOR TO THE CURRENT YEAR'S GROWTH REACHING A HEIGHT OF 2-INCHES. THE SEED MIXTURE SHALL NOT BE MOVED AGAIN UNTIL THE FOLLOWING SPRING. IN ALL INSTANCES, CLIPPINGS SHALL BE COMPOSTED OR TAKEN TO AN APPROVED YARD WASTE RECYCLING FACILITY.
11. REMOVE ACCUMULATED SEDIMENT FROM BASIN AS REQUIRED. RESTORE ORIGINAL CROSS SECTION AND INFILTRATION RATE.

ALTERNATIVES INCLUDE:

- REPLACE THE ENGINEERED SOIL LAYER AND / OR THE UNDERDRAIN SYSTEM. THE ENGINEERED SOIL LAYER SHOULD BE REMOVED. THE SOIL LAYER AT THE BOTTOM OF THE ENGINEERED SOIL SHALL BE SCARIFIED. THE ENGINEERED SOIL LAYER SHALL BE REPLACED PER THE PCSM PLAN SPECIFICATIONS.
- CONDUCT AN INVESTIGATION BY A QUALIFIED INDIVIDUAL IN ORDER TO DETERMINE THE CAUSE OF FAILURE AND MAKE A DETERMINATION AS TO THE BEST COURSE OF ACTION AS TO RETURN THE SITE TO THE STANDARDS OF THE LOCAL MUNICIPAL AUTHORITY AND THE PA DEP.

DETENTION BASINS

A DETENTION BASIN IS AN EARTHEN STRUCTURE CONSTRUCTED EITHER BY IMPOUNDMENT OF A NATURAL DEPRESSED OR EXCAVATION OF EXISTING SOIL, THAT PROVIDES TEMPORARY STORAGE OF RUNOFF AND FUNCTIONS HYDRAULICALLY TO ATTENUATE STORMWATER RUNOFF PEAKS.

CONSTRUCTION SEQUENCE

1. INSTALL ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS. a. THE AREA IMMEDIATELY ADJACENT TO THE BASIN MUST BE STABILIZED IN ACCORDANCE WITH THE PADEP'S EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL (2000 OR LATEST EDITION) PRIOR TO BASIN CONSTRUCTION.
2. PREPARE SITE FOR EXCAVATION AND/OR EMBANKMENT CONSTRUCTION. a. ALL EXISTING VEGETATION SHOULD REMAIN IF FEASIBLE AND SHOULD ONLY BE REMOVED IF NECESSARY FOR CONSTRUCTION. b. CARE SHOULD BE TAKEN TO PREVENT COMPACTION OF THE BASIN BOTTOM. c. IF EXCAVATION IS REQUIRED, CLEAR THE AREA TO BE EXCAVATED OF ALL VEGETATION. REMOVE ALL TREE ROOTS, ROCKS, AND BouldERS ONLY IN THE EXCAVATION AREA.
3. EXCAVATE BOTTOM OF BASIN TO DESIRED ELEVATION (IF NECESSARY).
4. INSTALL SURROUNDING EMBANKMENTS AND INLET AND OUTLET CONTROL STRUCTURES.
5. GRADE SUBSOIL IN BOTTOM OF BASIN, TAKING CARE TO PREVENT COMPACTION. COMPACT SURROUNDING EMBANKMENT AREAS AND AROUND INLET AND OUTLET CONTROL STRUCTURES.
6. APPLY AND GRADE PLANTING SOIL.
7. APPLY GEO-TEXTILES AND OTHER EROSION-CONTROL MEASURES.
8. SEED, PLANT AND MULCH ACCORDING TO PLANTING PLAN.
9. INSTALL ANY ANTI-GRAZING MEASURES, IF NECESSARY.

OPERATION AND MAINTENANCE

MAINTENANCE IS NECESSARY TO ENSURE PROPER FUNCTIONALITY OF THE DETENTION BASIN AND SHOULD TAKE ON A QUARTERLY BASIS. BASIC MAINTENANCE SHALL INCLUDE THE FOLLOWING MEASURES:

1. ALL BASIN STRUCTURES EXPECTED TO RECEIVE AND/OR TRAP DEBRIS AND SEDIMENT SHOULD BE INSPECTED FOR CLOGGING AND EXCESSIVE DEBRIS AND SEDIMENT ACCUMULATION ONCE EVERY THREE MONTHS AND AFTER THE CESSATION OF ALL STORM EVENTS OF 0.25-INCH OR GREATER. DEBRIS AND SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN A LEGAL MANNER. UN-VEGETATED AREAS SHALL BE IMMEDIATELY SEEDED AND MULCHED.
2. STRUCTURES INCLUDE BUSH TRIMMINGS, TRASH RACKS, OUTLET STRUCTURES, RIPRAP OR GABION STRUCTURES, AND INLETS.
3. SEDIMENT REMOVAL SHOULD BE CONDUCTED WHEN THE BASIN IS COMPLETELY DRY. SEDIMENT SHOULD BE DISPOSED OF PROPERLY AND ONCE SEDIMENT IS REMOVED, DISTURBED AREAS NEED TO BE IMMEDIATELY STABILIZED AND REVEGETATED.
4. MOWING AND/OR TRIMMING OF VEGETATION SHOULD BE PERFORMED AS NECESSARY TO SUSTAIN THE SYSTEM, BUT ALL DETRIUS SHOULD BE REMOVED FROM THE BASIN.
5. VEGETATED AREAS SHOULD BE INSPECTED ANNUALLY FOR EROSION.
6. VEGETATED AREAS SHOULD BE INSPECTED ANNUALLY FOR UNWANTED GROWTH OF EXOTIC/INVASIVE SPECIES.
7. VEGETATIVE COVER SHOULD BE MAINTAINED AT A MINIMUM OF 95 PERCENT. IF VEGETATIVE COVER HAS BEEN REDUCED BY 10% VEGETATION SHOULD BE REESTABLISHED.

OVERALL PCSM CONSTRUCTION SEQUENCE

THE PROJECT WILL BE CONSTRUCTED IN PHASES. THE FOLLOWING SEQUENCE CAN BE APPLIED TO THE FACILITIES WITHIN EACH PHASE, AS FURTHER DETAILED IN THE SCHED OF EARTHMOVING WORK.

1. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARED, PCSM PLAN PREPARED, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE OF THE COUNTY CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION MEETING.
2. UPON INSTALLATION OF PERMETER EAS CONTROLS (SEE CONSTRUCTION SEQUENCE), INSTALL SEDIMENT BASINS.
3. INSTALL ALL SWALES DURING ROUGH GRADING.
4. INSTALL ALL UTILITIES.
5. AFTER THE BUILDINGS AND STARLIGHT LANER CONSTRUCTED ADD TOPSOIL TO THE POST-CONSTRUCTION PERVIOUS AREAS TO BE PERMANENTLY STABILIZED.
6. AFTER STABILIZATION OF THE SITE AREA, COVER SEDIMENT BASINS TO PERMANENT STORMWATER BASINS AS SEEN ON THE PCSM PLAN. CARE SHOULD BE TAKEN TO MINIMIZE SOIL COMPACTION IN THESE AREAS BEFORE AND AFTER CONSTRUCTION. SUCCESS HAS BEEN ACHIEVED WITH MINIMAL COMPACTION UTILIZING A "ROCK SLINGER".
7. APPLY THE SPECIFIED PERMANENT STABILIZATION ACROSS THE SITE.

NPDES PERMIT NOTES

1. PERMITEE'S REQUESTING A RENEWAL OF COVERAGE UNDER GENERAL PERMIT MUST SUBMIT TO THE COUNTY CONSERVATION DISTRICT AN ADMINISTRATIVELY COMPLETE AND ACCEPTABLE NO, AT LEAST 90 DAYS PRIOR TO THE EXPIRATION DATE OF THE COVERAGE.
2. PERMITEE'S REQUESTING A RENEWAL OF COVERAGE UNDER INDIVIDUAL PERMIT MUST SUBMIT TO THE COUNTY CONSERVATION DISTRICT AN ADMINISTRATIVELY COMPLETE AND ACCEPTABLE NO, AT LEAST 180 DAYS PRIOR TO THE EXPIRATION DATE OF THE COVERAGE.
3. ALL EARTHMOVING CONTRACTORS MUST BE ADDED AS CO-PERMITEES TO THE NPDES PERMIT.
4. SITE INSPECTIONS AND MONITORING REPORTS - THE PERMITEE AND CO-PERMITEE(S) SHALL COMPLY WITH ALL OF THE MONITORING AND REPORTING REQUIREMENTS, AS OUTLINED IN PART 4.2 OF THE NPDES PERMIT. THE PERMITEE AND CO-PERMITEE(S) SHALL ENSURE THAT SITE INSPECTIONS ARE CONDUCTED AT LEAST WEEKLY AND AFTER EACH MEASURABLE PRECIPITATION EVENT BY QUALIFIED PERSONNEL. A WRITTEN REPORT SHALL BE KEPT FOR EACH INSPECTION IN ACCORDANCE WITH THE REQUIREMENTS OF PART 4.2.A.
5. THE DEP "VISUAL INSPECTION CHECKLIST" SHOULD BE COMPLETED FOR EACH INSPECTION AND SHOULD BE AVAILABLE ON-SITE FOR INSPECTION BY DEP OR COUNTY CONSERVATION DISTRICT PERSONNEL.

ALL EARTHMOVING ACTIVITY HAS CEASED AND THE ENTIRE PERMITTED AREA IS PERMANENTLY STABILIZED. THE PERMITEE MUST SUBMIT A NOTICE OF TERMINATION TO THE LOCAL COUNTY CONSERVATION DISTRICT TO CLOSE OUT THE PERMIT. ALLOWING THE NPDES PERMIT TO EXPIRE IS DETERMINED TO BE A VIOLATION OF THE NPDES PERMIT.

BMP CRITICAL STAGES

PER REQUIREMENTS OF THE PA DEP A LICENSED PROFESSIONAL OR DESIGNED MUST BE PRESENT FOR THE INSTALLATION OF ALL BMP AND STORMWATER CONSTRUCTION. THE PERMITEE MUST LEASE OR CONTRACT THE DESIGN PROFESSIONAL OR ENSURE A LICENSED PROFESSIONAL IS PRESENT BEFORE BEGINNING THE FOLLOWING CONSTRUCTION ACTIVITIES:

- INFILTRATION BASIN A, B, C, E, F, G o EXCAVATION / ROUGH GRADING o OUTLET PIPE, ANTI-SEEP COLLAR, CLAY CORE INSTALLATION o UNDERDRAIN AND AMENDED SOILS INSTALLATION o DETENTION BASIN D o EXCAVATION / ROUGH GRADING o OUTLET PIPE, ANTI-SEEP COLLAR, CLAY CORE INSTALLATION o PERMANENT SITE STABILIZATION

PROJECT WASTES NOTES

THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIALS OR WASTES ON OR OFF THE SITE. THESE BUILDING WASTES INCLUDE, BUT NOT BE LIMITED TO, EXCESS SOIL MATERIALS, BUILDING MATERIALS, CONCRETE WASH WATER, SANITARY WASTES, EXISTING ON-SITE RESURFACING, ETC. THAT COULD ADVERSELY IMPACT WATER QUALITY. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 2601 ET SEQ., 271.L, AND 287.1 ET SEQ. NO BUILDING MATERIALS OR WASTE SHALL BE BURNED, INCINERATED, OR DISCHARGED AT THE SITE. WASTE MATERIALS WITH OR FROM THE POST CONSTRUCTION STORMWATER MANAGEMENT (PCSM) BEST MANAGEMENT PRACTICES (BMP'S):

- SEDIMENT DEPOSITED AND ACCUMULATED IN PCSM BMP'S SHALL BE REMOVED FROM THE BMP AND DISPOSED OF PROPERLY.
- CUTTINGS AND TRIMMINGS FROM PCSM BMP'S SHALL BE DISPOSED OF IN A LOCAL COMPOSTING FACILITY.
- REPAIRS TO THE EXISTING UNDERDRAIN AND OUTLET PIPE SHALL BE DISPOSED OF IN A TRASH RECEPTACLE FOR PICK UP BY THE LOCAL REFUSE HAULER.

STAGING OF EARTHMOVING

ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING STAGING OF EARTHMOVING ACTIVITIES. EACH STAGE SHALL BE COMPLETED BEFORE A SUBSEQUENT STAGE IS INITIATED.

CONSTRUCTION OF THE SITE IMPROVEMENTS IS EXPECTED TO BEGIN IN THE FALL OF 2023. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. CONSTRUCTION WILL PROCEED IN A TIMELY MANNER IN ORDER TO LIMIT THE POTENTIAL FOR ACCELERATED EROSION AND SEDIMENTATION. IMMEDIATELY UPON DISCOVERING UNDESIRABLE CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION. SHOULD ANY SIGNIFCANT OR GROUNDWATER SOURCES BE ENCOUNTERED DURING CONSTRUCTION,

SEQUENCE OF CONSTRUCTION – PHASE 3

1. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE CONTRACTOR SHALL INWRITE ALL SUB-CONTRACTORS, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE CIVIL ENGINEER, AND A REPRESENTATIVE OF THE LOCAL COUNTY CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION MEETING. PERIMETER E&S CONTROLS MAY BE INSTALLED PRIOR TO THE PRE-CONSTRUCTION MEETING.

2. AT LEAST 3 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.

3. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY DEP PRIOR TO IMPLEMENTATION.

4. INSTALL EXTENDED ROCK CONSTRUCTION ENTRANCES #3 & #4 AS SHOWN ON THE ATTACHED PLAN.

5. THE LIMITS OF DISTURBANCE (LOD) SHOULD BE MARKED PRIOR TO DISTURBANCE ACTIVITIES (I.E. SURVEY STAKES, POSTS & ROPE, CONSTRUCTION FENCE, ETC.). INSTALL TEMPORARY ORANGE CONSTRUCTION FENCING AROUND WETLAND 2 AS SHOWN ON THE E&S PLANS.

6. LOCATE, STAKE, AND FLAG AREAS MARKED AS PCSM BMP'S (I.E. INFILTRATION BASIN F). REFER TO PCSM PLAN FOR ADDITIONAL INFORMATION AND LOCATION OF PCSM BMP'S. THESE AREAS SHOULD NOT BE COMPACTED DURING CONSTRUCTION. NO CONSTRUCTION TRAFFIC SHALL OCCUR IN THESE AREAS EXCEPT AS NECESSARY FOR EXCAVATION/GRADING.

7. INSTALL PERMETER SILT SOCK ON THE SITE AT LOCATIONS 37-42 AND 49-50 AS INDICATED ON THE ATTACHED PLAN. SILT SOCK IS TO BE INSTALLED ALONG THE CONTOUR WHERE POSSIBLE, AT A LEVEL GRADE. THE SILT SOCK SHOULD BE POSITIONED IN SUCH A WAY AS TO PREVENT ANY SEDIMENT FROM LEAVING THE SITE. SEDIMENT ACCUMULATING TO HALF THE HEIGHT OF THE SILT SOCK SHALL BE REMOVED IN ORDER TO RESTORE THE SEDIMENT STORAGE CAPACITY OF THESE AREAS. IN THE CASE OF A FAILURE OF THE SILT SOCK DUE TO HIGH FLOWS, A NEW SECTION OF SILT SOCK SHALL BE INSTALLED ACROSS THE FAILED PORTION OF THE SILT SOCK. AT NO POINT SHALL UN-STABILIZED AREA DRAIN OFFSITE UNCONTROLLED. THE SILT SOCK IN LOCATION 65 IS TO ENSURE SEDIMENTATION OF THE BASIN BOTTOM AREA DOES NOT OCCUR AND SHOULD BE INSTALLED ONCE THE CONVERSION TO THE PERMANENT STORMWATER BASIN IS COMPLETE.

8. PER NPDES REQUIREMENTS, "UPON THE INSTALLATION OR STABILIZATION OF ALL PERIMETER SEDIMENT CONTROL BMP'S AND AT LEAST 3 DAYS PRIOR TO PROCEEDING WITH THE BULK EARTH DISTURBANCE ACTIVITIES, THE PERMITTEE OR CO-PERMITTEE SHALL PROVIDE NOTIFICATION TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT."

9. INSTALL SEDIMENT BASIN F WHICH WILL SERVE AS A SEDIMENT BASIN DURING CONSTRUCTION AND BE CONVERTED TO A PERMANENT STORMWATER BASIN UPON TRIBUTARY STABILIZATION. DISTURB ONLY THE MINIMUM AREA NECESSARY TO INSTALL THE SEDIMENT BASIN. THE SEDIMENT BASIN MUST BE CONSTRUCTED PRIOR TO ANY MAJOR EARTH DISTURBANCE, STRIPPING, OR CLEARING. INSTALL THE OUTLET PIPE FROM THE BASIN ALONG WITH THE ASSOCIATED OUTLET STRUCTURE. CONSTRUCT IMPERVIOUS CLAY CORE, ANTI-SEEP COLLARS, AND BACKFILL EMBANKMENT, COMPACTING TO 95% MAX DRY DENSITY. INSTALL NORTH AMERICAN GREEN C350 SLOPE PROTECTION AT EMERGENCY SPILLWAY. INSTALL TYPE LEVEL SPREADER AT BASIN OUTLET. INSTALL SEED IN THE INTERIOR SLOPES AND BERM OF BASIN. INSTALL TYPE M OUTLET STRUCTURE, CLEAN OUT STAKE, BASIN Baffle(S), AND SKIMMER WITHIN THE SEDIMENT BASIN. PLEASE REFER TO THE E&S SHEETS FOR ADDITIONAL DETAIL. A LICENSED PROFESSIONAL OR DESIGNER SHALL BE PRESENT ONSITE DURING SEDIMENT BASIN EXCAVATION AND INSTALLATION OF THE OUTLET PIPE, ANTI-SEEP COLLARS, AND CLAY CORE.

10. IF SOIL IS TAKEN TO OR BORROWED FROM ANOTHER CONSTRUCTION SITE, SAID SITE MUST HAVE AN APPROVED E&SP PLAN. SEE THE "SOIL LIMITATIONS AND RESOLUTIONS" SECTION OF THIS E&S PLAN FOR FURTHER INFORMATION.

11. CLEAR AND STRIP TOPSOIL ACROSS THE AREA OF THE BUILDING PADS AND STREETS WITHIN PHASE 3 AND PLACE ON THE TOPSOIL STOCKPILES AS SHOWN ON THE ATTACHED PLAN AND IN ACCORDANCE WITH PLAN DETAILS. INSTALL SILT SOCK BELOW EACH TOPSOIL STOCKPILE AS SHOWN ON THE ATTACHED PLAN.

12. ROUGH GRADE THE DISTURBED AREA TO CONSTRUCT THE BUILDINGS, DRIVEWAYS, AND STREETS WITHIN PHASE 3. INSTALL SWALES 5-7 DURING ROUGH GRADING. ENSURE THE SWALE LINING IS INSTALLED IN EACH SWALE IN ACCORDANCE WITH THE PLAN DETAILS.

13. INSTALL WATER, SANITARY SEWER, STORM SEWER, AND ALL OTHER UTILITIES AT THIS TIME. ENSURE INLET PROTECTION IS PROVIDED FOR ALL STORM INLETS. DURING AND FOLLOWING STORM EVENTS PROVIDE A MEANS TO DEWATER PITS AND UTILITY TRENCHES. SPOIL MATERIAL FROM EXCAVATION OF THE TRENCHES SHALL BE PLACED ON THE UP-SLOPE SIDE OF THE TRENCH. THE LENGTH OF OPEN TRENCH SHALL BE LIMITED TO THAT WHICH WILL BE BACKFILLED THE SAME DAY, AND ANY AFFECTED BMP'S SHALL BE IMMEDIATELY STABILIZED AND REPAIRED. THE TOPSOIL EXCAVATED FROM THE TRENCH SHALL BE CAREFULLY REMOVED AND STOCKPILED SEPARATELY FROM THE SUBSOIL. THE TOPSOIL SHALL BE RESTORED TO THE GRADED AREAS TO PRE-CONSTRUCTION CONDITIONS. WATER PUMPED FROM PITS AND TRENCHES SHALL BE FILTERED BY MEANS OF A FILTER BAG. IMMEDIATELY AFTER TRENCHES HAVE BEEN BACKFILLED, FINE-GRADE AREA.

14. INSTALL THE STONE SUB-BASE FOR THE STREETS, DRIVEWAYS, AND CONCRETE SLABS AS PER PLAN REQUIREMENTS.

15. CONSTRUCT THE PROPOSED BUILDINGS AND ATTACHED UTILITIES (ROOF DRAINS, SANITARY CONNECTIONS, WATER CONNECTIONS, ETC.) IMMEDIATELY UPON COMPLETION OF EARTH DISTURBANCE ACTIVITIES FINAL GRADE AND STABILIZE THE LOT.

16. FINE GRADE ANY REMAINING AREAS AS SHOWN ON THE GRADING PLAN. DURING THIS TIME, FRAME EARTH MOVING EQUIPMENT WILL BE EMPLOYED TO REMOVE TOPSOIL AND EXCESS "FILL" MATERIAL, IF ANY EXISTS. SPREAD A MINIMUM OF 4-8 INCHES OF TOPSOIL ON FRESHLY GRADED AREAS; REFER TO THE TOPSOIL APPLICATION NOTES ON THE PLAN. FINAL PASSES DURING FINE GRADING SHALL BE MADE AT RIGHT ANGLES TO THE SLOPES. PREPARE THE REMAINDER OF THE DISTURBED AREA FOR PERMANENT STABILIZATION. SEEDBED SHALL BE PREPARED IN ACCORDANCE WITH ACCEPTED PRACTICES. EACH SEED MIXTURE SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RATES AND INSTRUCTIONS.

17. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINAL GRADE OR WHICH WILL NOT BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.

18. PAVE THE STREETS. DO NOT INSTALL SURFACE (WEARING) COURSE UNTIL THE AREA IS STABILIZED (DEFINED AS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER, WITH A DENSITY CAPABLE OF RESISTING ACCELERATED EROSION AND SEDIMENTATION IN ALL AREAS TRIBUTARY TO THE CONTROLS). IF EARTHMOVING ACTIVITIES CEASE FOR FOUR (4) DAYS OR MORE TEMPORARY STABILIZATION SHALL BE APPLIED. SEE "STABILIZATION SPECIFICATIONS" IN THE E&S PLAN FOR FURTHER DETAILS.

19. ALL SEDIMENT DEPOSITED WITHIN STORM SEWER CONVEYANCE PIPES SHALL BE REMOVED PRIOR TO COMPLETION OF THE PROJECT AND PRIOR TO CONVERSION OF THE SEDIMENT BASINS TO PERMANENT STORMWATER BASINS. ANY WATER PUMPED FROM THE SEDIMENT BASIN OR OTHER AREA OF THE SITE SHALL BE PUMPED THROUGH A FILTER BAG AND THE COLLECTED SEDIMENT SHALL BE DISPOSED OF PROPERLY. ALL AREAS DISTURBED DURING THIS PROCESS SHALL BE STABILIZED IMMEDIATELY THROUGH SEEDING AND MULCHING. THE COUNTY CONSERVATION DISTRICT SHOULD BE CONTACTED PRIOR TO CONVERSION OR REMOVAL OF ANY E&S BMP'S AND MAY REQUIRE A SITE INSPECTION. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROLS ONCE THE SITE IS COMPLETELY STABILIZED (DEFINED AS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER, WITH A DENSITY CAPABLE OF RESISTING ACCELERATED EROSION AND SEDIMENTATION IN ALL AREAS TRIBUTARY TO THE CONTROLS) WITH APPROVAL OF THE COUNTY CONSERVATION DISTRICT.

20. UPON STABILIZATION OF ALL DISTURBED AREAS MODIFY SEDIMENT BASIN F AS REQUIRED TO INSTALL INFILTRATION BASIN F AS SHOWN ON THE PCSM PLAN. REMOVE ALL SEDIMENT BASIN Baffles, CLEANOUT STAKE, AND SKIMMER. THE INFILTRATION BASIN SHALL BE OVER-EXCAVATED AND SCARIFIED IN ACCORDANCE WITH THE PLAN DETAIL. THE EXCAVATOR SHOULD AVOID EXCAVATING TO THE FINAL DESIGN INVERT UNTIL THE ENGINEERED SOIL MIX IS READY TO BE PLACED. THIS WILL MINIMIZE THE EXPOSURE OF SUBGRADE SOIL AND AID IN REDUCING COMPACTION. WHEN EXCAVATING TO FINAL INVERT SUBGRADES UTILIZE A SMOOTH (TOOTHLESS) BLADE BUCKET TO AVOID LOCALIZED COMPACTION. DURING THE EXCAVATION OF THE BASIN BOTTOM, INSTALL THE UNDERDRAIN SYSTEM IN ACCORDANCE WITH THE PLAN DETAILS. PLACE THE ENGINEERED SOIL MIX TO THE SPECIFIED ELEVATION WITHIN THE BASIN BOTTOM. ANY SOIL COMPACTION SHOULD BE AVOIDED IN THE BASIN BOTTOM. IMMEDIATELY AFTER PLACING THE ENGINEERED SOIL MIX, INSTALL THE SILT SOCK AT LOCATION 65 TO PREVENT SEDIMENTATION OF THE ENGINEERED SOILS. WHEN SEEDING THE BASIN MIXES BE SURE TO HAND RAKE THE SEED INTO THE SOIL. A LICENSED PROFESSIONAL OR DESIGNER SHALL BE PRESENT ONSITE DURING INSTALLATION OF THE UNDERDRAIN SYSTEM, ENGINEERED SOILS, AND FINAL GRADING/SEEDING OF INFILTRATION BASIN F.

21. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES ON OR OFF THE SITE. THESE BUILDING WASTES INCLUDE, BUT ARE NOT LIMITED TO, EXCESS SOIL MATERIALS, BUILDING MATERIALS, CONCRETE WASH WATER, SANITARY WASTES, ETC. THAT COULD ADVERSELY IMPACT WATER QUALITY.

22. PER NPDES REQUIREMENTS, "WITHIN 30 DAYS AFTER THE COMPLETION OF EARTH DISTURBANCE ACTIVITIES AUTHORIZED BY THIS PERMIT, INCLUDING THE PERMANENT STABILIZATION OF THE SITE AND PROPER INSTALLATION OF PCSM BMP'S IN ACCORDANCE WITH THE APPROVED PCSM PLAN, OR UPON SUBMISSION OF THE NOT IF SOONER, THE PERMITTEE SHALL FILE WITH THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT A STATEMENT SIGNED BY A LICENSED PROFESSIONAL AND BY THE PERMITTEE CERTIFYING THAT WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THIS PERMIT AND THE APPROVED E&S AND PCSM PLANS. COMPLETION CERTIFICATES ARE NEEDED TO ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE PERMIT AND THE APPROVED E&S AND PCSM PLANS."

SEQUENCE OF CONSTRUCTION – PHASE 4

1. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE CONTRACTOR SHALL INWRITE ALL SUB-CONTRACTORS, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE CIVIL ENGINEER, AND A REPRESENTATIVE OF THE LOCAL COUNTY CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION MEETING. PERIMETER E&S CONTROLS MAY BE INSTALLED PRIOR TO THE PRE-CONSTRUCTION MEETING.

2. AT LEAST 3 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.

3. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY DEP PRIOR TO IMPLEMENTATION.

4. INSTALL EXTENDED ROCK CONSTRUCTION ENTRANCE #4 AS SHOWN ON THE ATTACHED PLAN.

5. THE LIMITS OF DISTURBANCE (LOD) SHOULD BE MARKED PRIOR TO DISTURBANCE ACTIVITIES (I.E. SURVEY STAKES, POSTS & ROPE, CONSTRUCTION FENCE, ETC.). INSTALL TEMPORARY ORANGE CONSTRUCTION FENCING AROUND WETLAND 2 AS SHOWN ON THE E&S PLANS.

6. LOCATE, STAKE, AND FLAG AREAS MARKED AS PCSM BMP'S (I.E. INFILTRATION BASIN E). REFER TO PCSM PLAN FOR ADDITIONAL INFORMATION AND LOCATION OF PCSM BMP'S. THESE AREAS SHOULD NOT BE COMPACTED DURING CONSTRUCTION. NO CONSTRUCTION TRAFFIC SHALL OCCUR IN THESE AREAS EXCEPT AS NECESSARY FOR EXCAVATION/GRADING.

7. INSTALL PERMETER SILT SOCK ON THE SITE AT LOCATIONS 31-37 AND 50-56 AS INDICATED ON THE ATTACHED PLAN. SILT SOCK IS TO BE INSTALLED ALONG THE CONTOUR WHERE POSSIBLE, AT A LEVEL GRADE. THE SILT SOCK SHOULD BE POSITIONED IN SUCH A WAY AS TO PREVENT ANY SEDIMENT FROM LEAVING THE SITE. SEDIMENT ACCUMULATING TO HALF THE HEIGHT OF THE SILT SOCK SHALL BE REMOVED IN ORDER TO RESTORE THE SEDIMENT STORAGE CAPACITY OF THESE AREAS. IN THE CASE OF A FAILURE OF THE SILT SOCK DUE TO HIGH FLOWS, A NEW SECTION OF SILT SOCK SHALL BE INSTALLED ACROSS THE FAILED PORTION OF THE SILT SOCK. AT NO POINT SHALL UN-STABILIZED AREA DRAIN OFFSITE UNCONTROLLED. THE SILT SOCK IN LOCATION 64 IS TO ENSURE SEDIMENTATION OF THE BASIN BOTTOM AREA DOES NOT OCCUR AND SHOULD BE INSTALLED ONCE THE CONVERSION TO THE PERMANENT STORMWATER BASIN IS COMPLETE.

8. PER NPDES REQUIREMENTS, "UPON THE INSTALLATION OR STABILIZATION OF ALL PERIMETER SEDIMENT CONTROL BMP'S AND AT LEAST 3 DAYS

PRIOR TO PROCEEDING WITH THE BULK EARTH DISTURBANCE ACTIVITIES, THE PERMITTEE OR CO-PERMITTEE SHALL PROVIDE NOTIFICATION TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT."

9. INSTALL SEDIMENT BASIN E WHICH WILL SERVE AS A SEDIMENT BASIN DURING CONSTRUCTION AND BE CONVERTED TO A PERMANENT STORMWATER BASIN UPON TRIBUTARY STABILIZATION. DISTURB ONLY THE MINIMUM AREA NECESSARY TO INSTALL THE SEDIMENT BASIN. THE SEDIMENT BASIN MUST BE CONSTRUCTED PRIOR TO ANY MAJOR EARTH DISTURBANCE, STRIPPING, OR CLEARING. INSTALL THE OUTLET PIPE FROM THE BASIN ALONG WITH THE ASSOCIATED OUTLET STRUCTURE. CONSTRUCT IMPERVIOUS CLAY CORE, ANTI-SEEP COLLARS, AND BACKFILL EMBANKMENT, COMPACTING TO 95% MAX DRY DENSITY. INSTALL NORTH AMERICAN GREEN C350 SLOPE PROTECTION AT EMERGENCY SPILLWAY. INSTALL TYPE LEVEL SPREADER AT BASIN OUTLET. INSTALL SEED IN THE INTERIOR SLOPES AND BERM OF BASIN. INSTALL TYPE M OUTLET STRUCTURE, CLEAN OUT STAKE, BASIN Baffle(S), AND SKIMMER WITHIN THE SEDIMENT BASIN. PLEASE REFER TO THE E&S SHEETS FOR ADDITIONAL DETAIL. A LICENSED PROFESSIONAL OR DESIGNER SHALL BE PRESENT ONSITE DURING SEDIMENT BASIN EXCAVATION AND INSTALLATION OF THE OUTLET PIPE, ANTI-SEEP COLLARS, AND CLAY CORE.

10. IF SOIL IS TAKEN TO OR BORROWED FROM ANOTHER CONSTRUCTION SITE, SAID SITE MUST HAVE AN APPROVED E&SP PLAN. SEE THE "SOIL LIMITATIONS AND RESOLUTIONS" SECTION OF THIS E&S PLAN FOR FURTHER INFORMATION.

11. CLEAR AND STRIP TOPSOIL ACROSS THE AREA OF THE BUILDING PADS AND STREETS WITHIN PHASE 4 AND PLACE ON THE TOPSOIL STOCKPILES AS SHOWN ON THE ATTACHED PLAN AND IN ACCORDANCE WITH PLAN DETAILS. INSTALL SILT SOCK BELOW EACH TOPSOIL STOCKPILE AS SHOWN ON THE ATTACHED PLAN.

12. ROUGH GRADE THE DISTURBED AREA TO CONSTRUCT THE BUILDINGS, DRIVEWAYS, AND STREETS WITHIN PHASE 4. INSTALL SWALE 12 DURING ROUGH GRADING. ENSURE THE SWALE LINING IS INSTALLED IN EACH SWALE IN ACCORDANCE WITH THE PLAN DETAILS.

13. INSTALL WATER, SANITARY SEWER, STORM SEWER, AND ALL OTHER UTILITIES AT THIS TIME. ENSURE INLET PROTECTION IS PROVIDED FOR ALL STORM INLETS. DURING AND FOLLOWING STORM EVENTS PROVIDE A MEANS TO DEWATER PITS AND UTILITY TRENCHES. SPOIL MATERIAL FROM EXCAVATION OF THE TRENCHES SHALL BE PLACED ON THE UP-SLOPE SIDE OF THE TRENCH. THE LENGTH OF OPEN TRENCH SHALL BE LIMITED TO THAT WHICH WILL BE BACKFILLED THE SAME DAY, AND ANY AFFECTED BMP'S SHALL BE IMMEDIATELY STABILIZED AND REPAIRED. THE TOPSOIL EXCAVATED FROM THE TRENCH SHALL BE CAREFULLY REMOVED AND STOCKPILED SEPARATELY FROM THE SUBSOIL. THE TOPSOIL SHALL BE RESTORED TO THE GRADED AREAS TO PRE-CONSTRUCTION CONDITIONS. WATER PUMPED FROM PITS AND TRENCHES SHALL BE FILTERED BY MEANS OF A FILTER BAG. IMMEDIATELY AFTER TRENCHES HAVE BEEN BACKFILLED, FINE-GRADE AREA.

14. INSTALL THE STONE SUB-BASE FOR THE STREETS, DRIVEWAYS, AND CONCRETE SLABS AS PER PLAN REQUIREMENTS.

15. CONSTRUCT THE PROPOSED BUILDINGS AND ATTACHED UTILITIES (ROOF DRAINS, SANITARY CONNECTIONS, WATER CONNECTIONS, ETC.) IMMEDIATELY UPON COMPLETION OF EARTH DISTURBANCE ACTIVITIES FINAL GRADE AND STABILIZE THE LOT.

16. FINE GRADE ANY REMAINING AREAS AS SHOWN ON THE GRADING PLAN. DURING THIS TIME, FRAME EARTH MOVING EQUIPMENT WILL BE EMPLOYED TO REMOVE TOPSOIL AND EXCESS "FILL" MATERIAL, IF ANY EXISTS. SPREAD A MINIMUM OF 4-8 INCHES OF TOPSOIL ON FRESHLY GRADED AREAS; REFER TO THE TOPSOIL APPLICATION NOTES ON THE PLAN. FINAL PASSES DURING FINE GRADING SHALL BE MADE AT RIGHT ANGLES TO THE SLOPES. PREPARE THE REMAINDER OF THE DISTURBED AREA FOR PERMANENT STABILIZATION. SEEDBED SHALL BE PREPARED IN ACCORDANCE WITH ACCEPTED PRACTICES. EACH SEED MIXTURE SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RATES AND INSTRUCTIONS.

17. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINAL GRADE OR WHICH WILL NOT BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.

18. PAVE THE STREETS. DO NOT INSTALL SURFACE (WEARING) COURSE UNTIL THE AREA IS STABILIZED (DEFINED AS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER, WITH A DENSITY CAPABLE OF RESISTING ACCELERATED EROSION AND SEDIMENTATION IN ALL AREAS TRIBUTARY TO THE CONTROLS). IF EARTHMOVING ACTIVITIES CEASE FOR FOUR (4) DAYS OR MORE TEMPORARY STABILIZATION SHALL BE APPLIED. SEE "STABILIZATION SPECIFICATIONS" IN THE E&S PLAN FOR FURTHER DETAILS.

19. ALL SEDIMENT DEPOSITED WITHIN STORM SEWER CONVEYANCE PIPES SHALL BE REMOVED PRIOR TO COMPLETION OF THE PROJECT AND PRIOR TO CONVERSION OF THE SEDIMENT BASINS TO PERMANENT STORMWATER BASINS. ANY WATER PUMPED FROM THE SEDIMENT BASIN OR OTHER AREA OF THE SITE SHALL BE PUMPED THROUGH A FILTER BAG AND THE COLLECTED SEDIMENT SHALL BE DISPOSED OF PROPERLY. ALL AREAS DISTURBED DURING THIS PROCESS SHALL BE STABILIZED IMMEDIATELY THROUGH SEEDING AND MULCHING. THE COUNTY CONSERVATION DISTRICT SHOULD BE CONTACTED PRIOR TO CONVERSION OR REMOVAL OF ANY E&S BMP'S AND MAY REQUIRE A SITE INSPECTION. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROLS ONCE THE SITE IS COMPLETELY STABILIZED (DEFINED AS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER, WITH A DENSITY CAPABLE OF RESISTING ACCELERATED EROSION AND SEDIMENTATION IN ALL AREAS TRIBUTARY TO THE CONTROLS) WITH APPROVAL OF THE COUNTY CONSERVATION DISTRICT.

20. UPON STABILIZATION OF ALL DISTURBED AREAS MODIFY SEDIMENT BASIN E AS REQUIRED TO INSTALL INFILTRATION BASIN E AS SHOWN ON THE PCSM PLAN. REMOVE ALL SEDIMENT BASIN Baffles, CLEANOUT STAKE, AND SKIMMER. THE INFILTRATION BASIN SHALL BE OVER-EXCAVATED AND SCARIFIED IN ACCORDANCE WITH THE PLAN DETAIL. THE EXCAVATOR SHOULD AVOID EXCAVATING TO THE FINAL DESIGN INVERT UNTIL THE ENGINEERED SOIL MIX IS READY TO BE PLACED. THIS WILL MINIMIZE THE EXPOSURE OF SUBGRADE SOIL AND AID IN REDUCING COMPACTION. WHEN EXCAVATING TO FINAL INVERT SUBGRADES UTILIZE A SMOOTH (TOOTHLESS) BLADE BUCKET TO AVOID LOCALIZED COMPACTION. DURING THE EXCAVATION OF THE BASIN BOTTOM, INSTALL THE UNDERDRAIN SYSTEM IN ACCORDANCE WITH THE PLAN DETAILS. PLACE THE ENGINEERED SOIL MIX TO THE SPECIFIED ELEVATION WITHIN THE BASIN BOTTOM. ANY SOIL COMPACTION SHOULD BE AVOIDED IN THE BASIN BOTTOM. IMMEDIATELY AFTER PLACING THE ENGINEERED SOIL MIX, INSTALL THE SILT SOCK AT LOCATION 64 TO PREVENT SEDIMENTATION OF THE ENGINEERED SOILS. WHEN SEEDING THE BASIN MIXES BE SURE TO HAND RAKE THE SEED INTO THE SOIL. A LICENSED PROFESSIONAL OR DESIGNER SHALL BE PRESENT ONSITE DURING INSTALLATION OF THE UNDERDRAIN SYSTEM, ENGINEERED SOILS, AND FINAL GRADING/SEEDING OF INFILTRATION BASIN E.

21. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES ON OR OFF THE SITE. THESE BUILDING WASTES INCLUDE, BUT ARE NOT LIMITED TO, EXCESS SOIL MATERIALS, BUILDING MATERIALS, CONCRETE WASH WATER, SANITARY WASTES, ETC. THAT COULD ADVERSELY IMPACT WATER QUALITY.

22. PER NPDES REQUIREMENTS, "WITHIN 30 DAYS AFTER THE COMPLETION OF EARTH DISTURBANCE ACTIVITIES AUTHORIZED BY THIS PERMIT, INCLUDING THE PERMANENT STABILIZATION OF THE SITE AND PROPER INSTALLATION OF PCSM BMP'S IN ACCORDANCE WITH THE APPROVED PCSM PLAN, OR UPON SUBMISSION OF THE NOT IF SOONER, THE PERMITTEE SHALL FILE WITH THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT A STATEMENT SIGNED BY A LICENSED PROFESSIONAL AND BY THE PERMITTEE CERTIFYING THAT WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THIS PERMIT AND THE APPROVED E&S AND PCSM PLANS. COMPLETION CERTIFICATES ARE NEEDED TO ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE PERMIT AND THE APPROVED E&S AND PCSM PLANS."

SEQUENCE OF CONSTRUCTION – PHASE 5

1. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE CONTRACTOR SHALL INWRITE ALL SUB-CONTRACTORS, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE CIVIL ENGINEER, AND A REPRESENTATIVE OF THE LOCAL COUNTY CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION MEETING. PERIMETER E&S CONTROLS MAY BE INSTALLED PRIOR TO THE PRE-CONSTRUCTION MEETING.

2. AT LEAST 3 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.

3. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY DEP PRIOR TO IMPLEMENTATION.

4. INSTALL EXTENDED ROCK CONSTRUCTION ENTRANCE #5 AS SHOWN ON THE ATTACHED PLAN.

5. THE LIMITS OF DISTURBANCE (LOD) SHOULD BE MARKED PRIOR TO DISTURBANCE ACTIVITIES (I.E. SURVEY STAKES, POSTS & ROPE, CONSTRUCTION FENCE, ETC.).

6. LOCATE, STAKE, AND FLAG AREAS MARKED AS PCSM BMP'S (I.E. INFILTRATION BASIN G). REFER TO PCSM PLAN FOR ADDITIONAL INFORMATION AND LOCATION OF PCSM BMP'S. THESE AREAS SHOULD NOT BE COMPACTED DURING CONSTRUCTION. NO CONSTRUCTION TRAFFIC SHALL OCCUR IN THESE AREAS EXCEPT AS NECESSARY FOR EXCAVATION/GRADING.

7. INSTALL PERMETER SILT SOCK ON THE SITE AT LOCATIONS 44-48 AS INDICATED ON THE ATTACHED PLAN. SILT SOCK IS TO BE INSTALLED ALONG THE CONTOUR WHERE POSSIBLE, AT A LEVEL GRADE. THE SILT SOCK SHOULD BE POSITIONED IN SUCH A WAY AS TO PREVENT ANY SEDIMENT FROM LEAVING THE SITE. SEDIMENT ACCUMULATING TO HALF THE HEIGHT OF THE SILT SOCK SHALL BE REMOVED IN ORDER TO RESTORE THE SEDIMENT STORAGE CAPACITY OF THESE AREAS. IN THE CASE OF A FAILURE OF THE SILT SOCK DUE TO HIGH FLOWS, A NEW SECTION OF SILT SOCK SHALL BE INSTALLED ACROSS THE FAILED PORTION OF THE SILT SOCK. AT NO POINT SHALL UN-STABILIZED AREA DRAIN OFFSITE UNCONTROLLED. THE SILT SOCK IN LOCATION 66 IS TO ENSURE SEDIMENTATION OF THE BASIN BOTTOM AREA DOES NOT OCCUR AND SHOULD BE INSTALLED ONCE THE CONVERSION TO THE PERMANENT STORMWATER BASIN IS COMPLETE.

8. INSTALL ROCK FILTER #1 AT THE CULVERT BENEATH YAY STREET.

9. PER NPDES REQUIREMENTS, "UPON THE INSTALLATION OR STABILIZATION OF ALL PERIMETER SEDIMENT CONTROL BMP'S AND AT LEAST 3 DAYS PRIOR TO PROCEEDING WITH THE BULK EARTH DISTURBANCE ACTIVITIES, THE PERMITTEE OR CO-PERMITTEE SHALL PROVIDE NOTIFICATION TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT."

10. INSTALL SEDIMENT BASIN G WHICH WILL SERVE AS A SEDIMENT BASIN DURING CONSTRUCTION AND BE CONVERTED TO A PERMANENT STORMWATER BASIN UPON TRIBUTARY STABILIZATION. DISTURB ONLY THE MINIMUM AREA NECESSARY TO INSTALL THE SEDIMENT BASIN. THE SEDIMENT BASIN MUST BE CONSTRUCTED PRIOR TO ANY MAJOR EARTH DISTURBANCE, STRIPPING, OR CLEARING. INSTALL THE OUTLET PIPE FROM THE BASIN ALONG WITH THE ASSOCIATED OUTLET STRUCTURE. CONSTRUCT IMPERVIOUS CLAY CORE, ANTI-SEEP COLLARS, AND BACKFILL EMBANKMENT, COMPACTING TO 95% MAX DRY DENSITY. INSTALL NORTH AMERICAN GREEN C350 SLOPE PROTECTION AT EMERGENCY SPILLWAY. INSTALL TYPE LEVEL SPREADER AT BASIN OUTLET. INSTALL SEED IN THE INTERIOR SLOPES AND BERM OF BASIN. INSTALL TYPE M OUTLET STRUCTURE, CLEAN OUT STAKE, BASIN Baffle(S), AND SKIMMER WITHIN THE SEDIMENT BASIN. PLEASE REFER TO THE E&S SHEETS FOR ADDITIONAL DETAIL. A LICENSED PROFESSIONAL OR DESIGNER SHALL BE PRESENT ONSITE DURING SEDIMENT BASIN EXCAVATION AND INSTALLATION OF THE OUTLET PIPE, ANTI-SEEP COLLARS, AND CLAY CORE.

11. IF SOIL IS TAKEN TO OR BORROWED FROM ANOTHER CONSTRUCTION SITE, SAID SITE MUST HAVE AN APPROVED E&SP PLAN. SEE THE "SOIL LIMITATIONS AND RESOLUTIONS" SECTION OF THIS E&S PLAN FOR FURTHER INFORMATION.

12. CLEAR AND STRIP TOPSOIL ACROSS THE AREA OF THE BUILDING PADS AND STREETS WITHIN PHASE 5 AND PLACE ON THE TOPSOIL STOCKPILES AS SHOWN ON THE ATTACHED PLAN AND IN ACCORDANCE WITH PLAN DETAILS. INSTALL SILT SOCK BELOW EACH TOPSOIL STOCKPILE AS SHOWN ON THE ATTACHED PLAN.

13. ROUGH GRADE THE DISTURBED AREA TO CONSTRUCT THE BUILDINGS, DRIVEWAYS, AND STREETS WITHIN PHASE 5. INSTALL SWALES 8-10 DURING ROUGH GRADING. ENSURE THE SWALE LINING IS INSTALLED IN EACH SWALE IN ACCORDANCE WITH THE PLAN DETAILS.

14. INSTALL WATER, SANITARY SEWER, STORM SEWER, AND ALL OTHER UTILITIES AT THIS TIME. ENSURE INLET PROTECTION IS PROVIDED FOR ALL STORM INLETS THAT ARE NOT TRIBUTARY TO SEDIMENT BASIN G AS SHOWN ON THE E&S PLAN. INSTALL ROCK FILTER #2 ABOVE EW-16. DURING AND FOLLOWING STORM EVENTS PROVIDE A MEANS TO DEWATER PITS AND UTILITY TRENCHES. SPOIL MATERIAL FROM EXCAVATION OF THE TRENCHES SHALL BE PLACED ON THE UP-SLOPE SIDE OF THE TRENCH. THE LENGTH OF OPEN TRENCH SHALL BE LIMITED TO THAT WHICH WILL BE BACKFILLED THE SAME DAY, AND ANY AFFECTED BMP'S SHALL BE IMMEDIATELY STABILIZED AND REPAIRED. THE TOPSOIL EXCAVATED FROM THE TRENCH SHALL BE CAREFULLY REMOVED AND STOCKPILED SEPARATELY FROM THE SUBSOIL. THE TOPSOIL SHALL BE RESTORED TO THE GRADED AREAS TO PRE-CONSTRUCTION CONDITIONS. WATER PUMPED FROM PITS AND TRENCHES SHALL BE FILTERED BY MEANS OF A

FILTER BAG. IMMEDIATELY AFTER TRENCHES HAVE BEEN BACKFILLED, FINE-GRADE AREA.

15. INSTALL THE STONE SUB-BASE FOR THE STREETS, DRIVEWAYS, AND CONCRETE SLABS AS PER PLAN REQUIREMENTS.

16. CONSTRUCT THE PROPOSED BUILDINGS AND ATTACHED UTILITIES (ROOF DRAINS, SANITARY CONNECTIONS, WATER CONNECTIONS, ETC.) IMMEDIATELY UPON COMPLETION OF EARTH DISTURBANCE ACTIVITIES FINAL GRADE AND STABILIZE THE LOT.

17. FINE GRADE ANY REMAINING AREAS AS SHOWN ON THE GRADING PLAN. DURING THIS TIME, FRAME EARTH MOVING EQUIPMENT WILL BE EMPLOYED TO REMOVE TOPSOIL AND EXCESS "FILL" MATERIAL, IF ANY EXISTS. SPREAD A MINIMUM OF 4-8 INCHES OF TOPSOIL ON FRESHLY GRADED AREAS; REFER TO THE TOPSOIL APPLICATION NOTES ON THE PLAN. FINAL PASSES DURING FINE GRADING SHALL BE MADE AT RIGHT ANGLES TO THE SLOPES. PREPARE THE REMAINDER OF THE DISTURBED AREA FOR PERMANENT STABILIZATION. SEEDBED SHALL BE PREPARED IN ACCORDANCE WITH ACCEPTED PRACTICES. EACH SEED MIXTURE SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RATES AND INSTRUCTIONS.

18. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINAL GRADE OR WHICH WILL NOT BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.

19. PAVE THE STREETS. DO NOT INSTALL SURFACE (WEARING) COURSE UNTIL THE AREA IS STABILIZED (DEFINED AS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER, WITH A DENSITY CAPABLE OF RESISTING ACCELERATED EROSION AND SEDIMENTATION IN ALL AREAS TRIBUTARY TO THE CONTROLS). IF EARTHMOVING ACTIVITIES CEASE FOR FOUR (4) DAYS OR MORE TEMPORARY STABILIZATION SHALL BE APPLIED. SEE "STABILIZATION SPECIFICATIONS" IN THE E&S PLAN FOR FURTHER DETAILS.

20. ALL SEDIMENT DEPOSITED WITHIN STORM SEWER CONVEYANCE PIPES SHALL BE REMOVED PRIOR TO COMPLETION OF THE PROJECT AND PRIOR TO CONVERSION OF THE SEDIMENT BASINS TO PERMANENT STORMWATER BASINS. ANY WATER PUMPED FROM THE SEDIMENT BASIN OR OTHER AREA OF THE SITE SHALL BE PUMPED THROUGH A FILTER BAG AND THE COLLECTED SEDIMENT SHALL BE DISPOSED OF PROPERLY. ALL AREAS DISTURBED DURING THIS PROCESS SHALL BE STABILIZED IMMEDIATELY THROUGH SEEDING AND MULCHING. THE COUNTY CONSERVATION DISTRICT SHOULD BE CONTACTED PRIOR TO CONVERSION OR REMOVAL OF ANY E&S BMP'S AND MAY REQUIRE A SITE INSPECTION. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROLS ONCE THE SITE IS COMPLETELY STABILIZED (DEFINED AS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER, WITH A DENSITY CAPABLE OF RESISTING ACCELERATED EROSION AND SEDIMENTATION IN ALL AREAS TRIBUTARY TO THE CONTROLS) WITH APPROVAL OF THE COUNTY CONSERVATION DISTRICT.

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23. PER NPDES REQUIREMENTS, "WITHIN 30 DAYS AFTER THE COMPLETION OF EARTH DISTURBANCE ACTIVITIES AUTHORIZED BY THIS PERMIT, INCLUDING THE PERMANENT STABILIZATION OF THE SITE AND PROPER INSTALLATION OF PCSM BMP'S IN ACCORDANCE WITH THE APPROVED PCSM PLAN, OR UPON SUBMISSION OF THE NOT IF SOONER, THE PERMITTEE SHALL FILE WITH THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT A STATEMENT SIGNED BY A LICENSED PROFESSIONAL AND BY THE PERMITTEE CERTIFYING THAT WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THIS PERMIT AND THE APPROVED E&S AND PCSM PLANS. COMPLETION CERTIFICATES ARE NEEDED TO ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE PERMIT AND THE APPROVED E&S AND PCSM PLANS."

CONTRACTOR NOTES

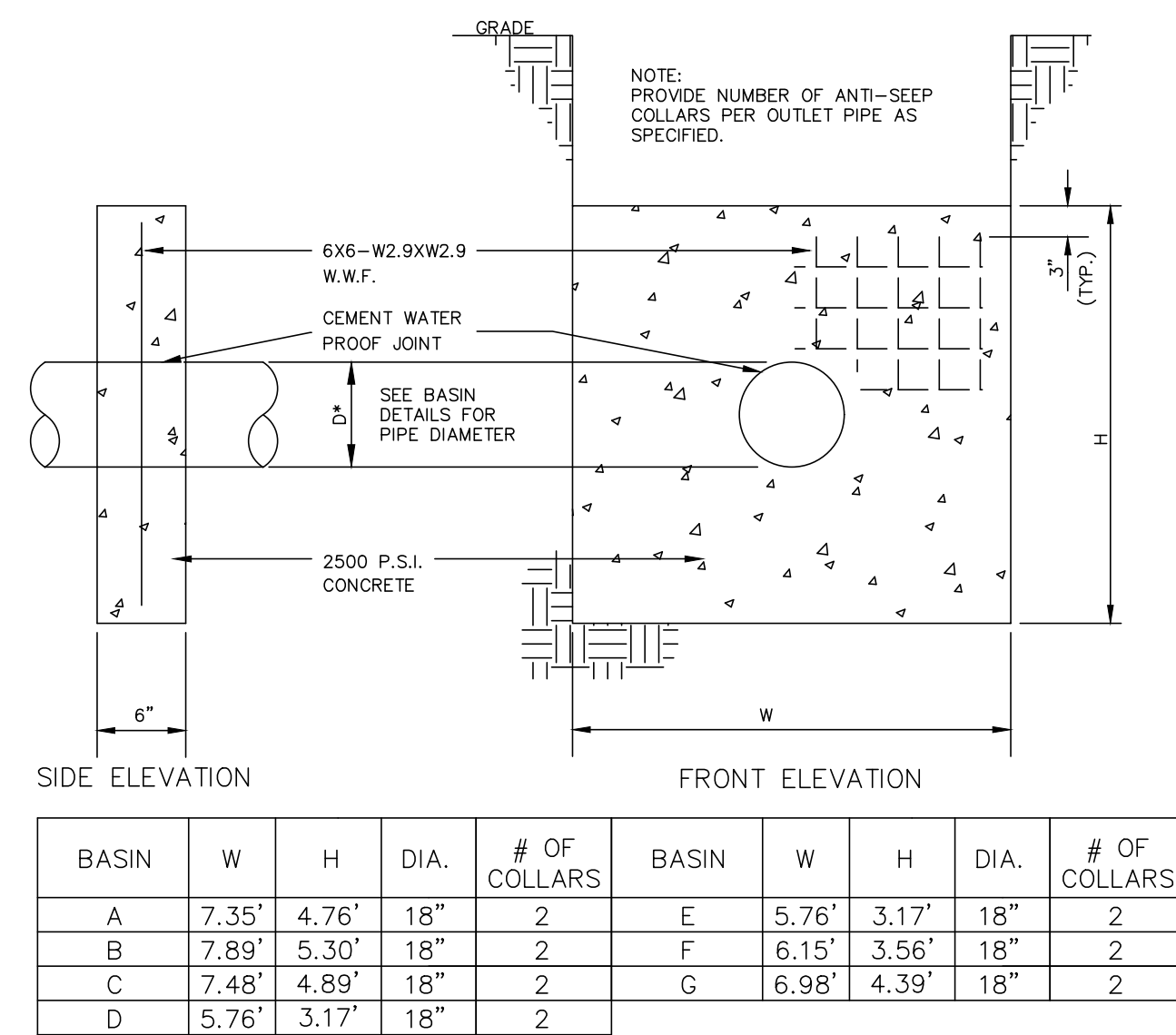
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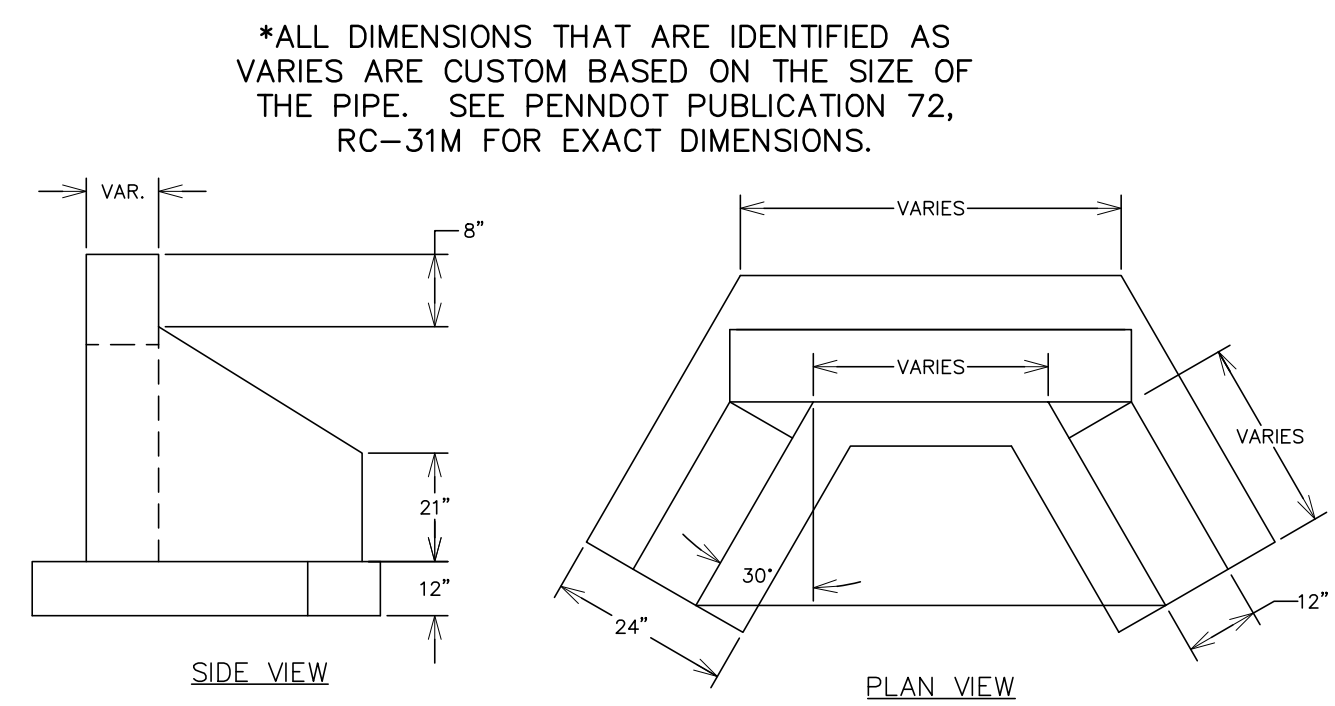
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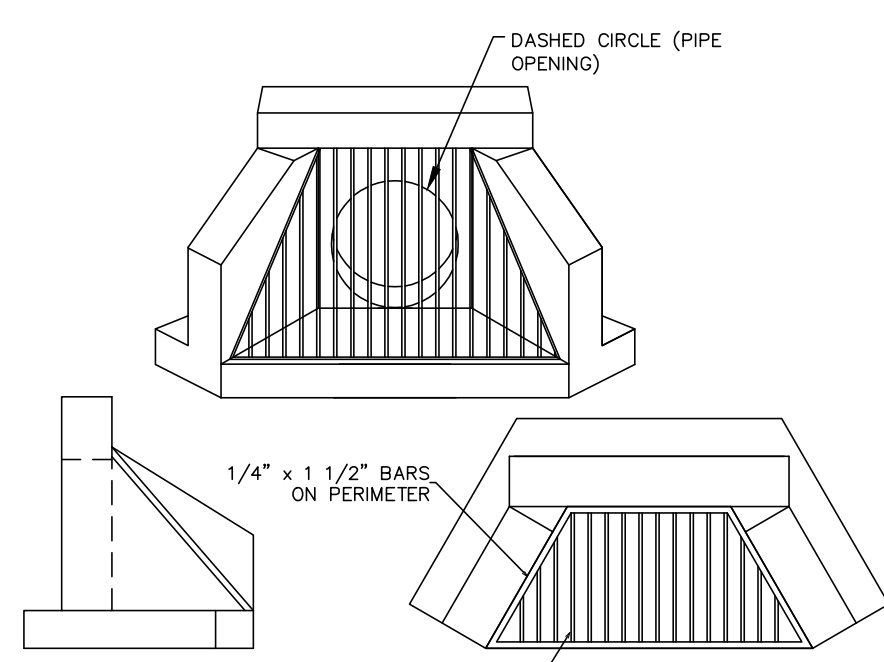
**CONCRETE ANTI-SEEP COLLAR**

NO SCALE



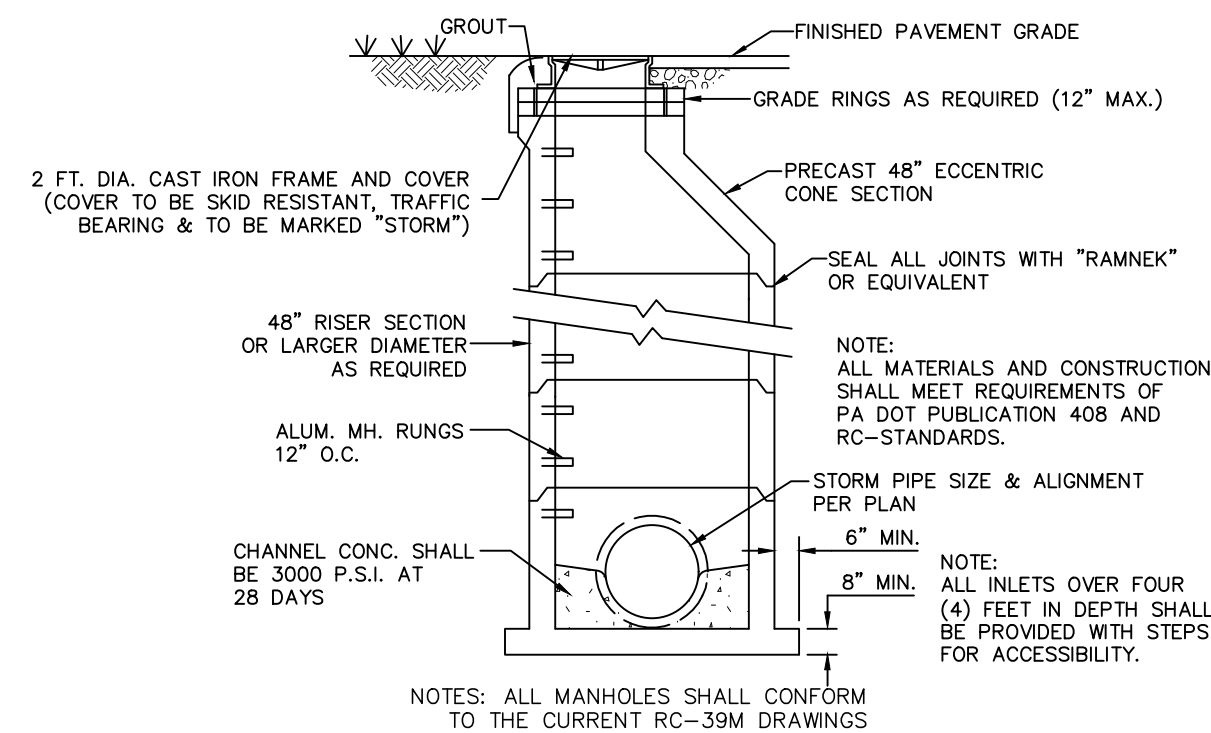
**TYPE DW ENDWALL DETAIL**

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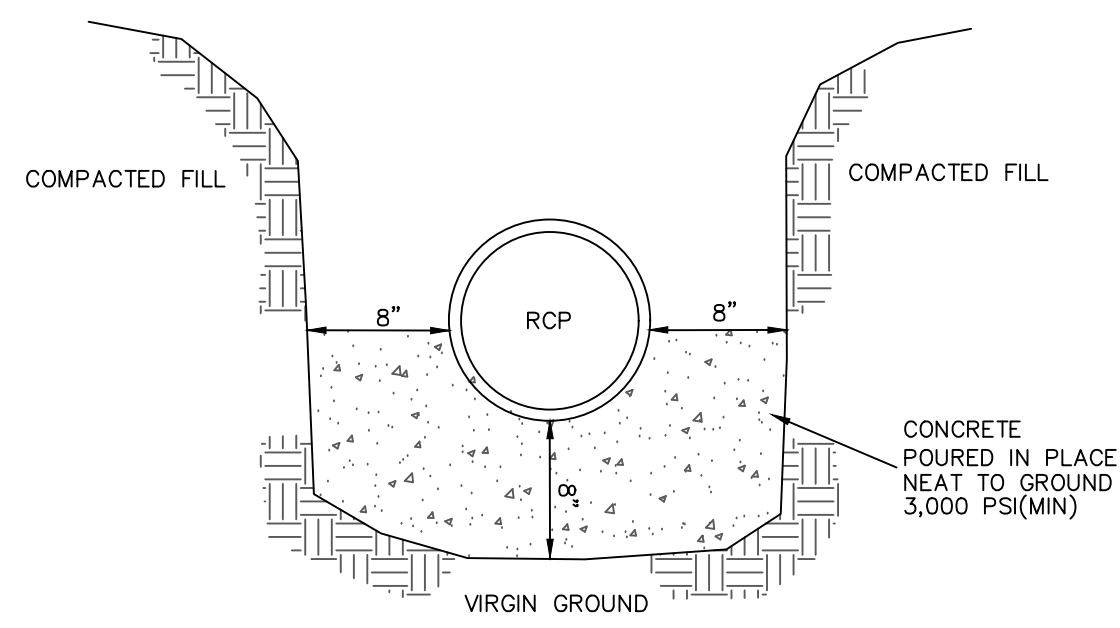
**TYPE DW ENDWALL WITH TRASH RACK DETAIL**

NO SCALE



**STORMWATER MANHOLE CROSS SECTION**

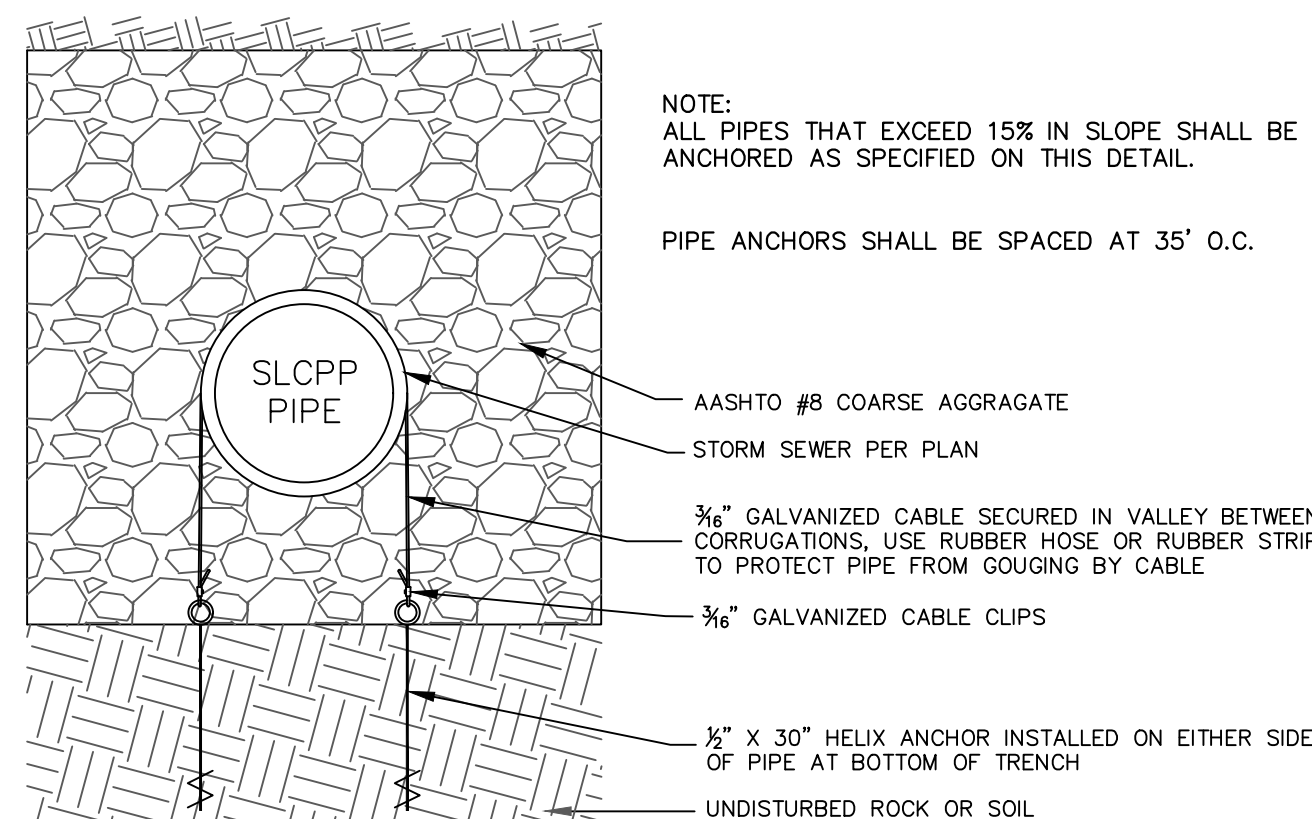
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**CROSS-SECTION AT OUTLET BARREL**

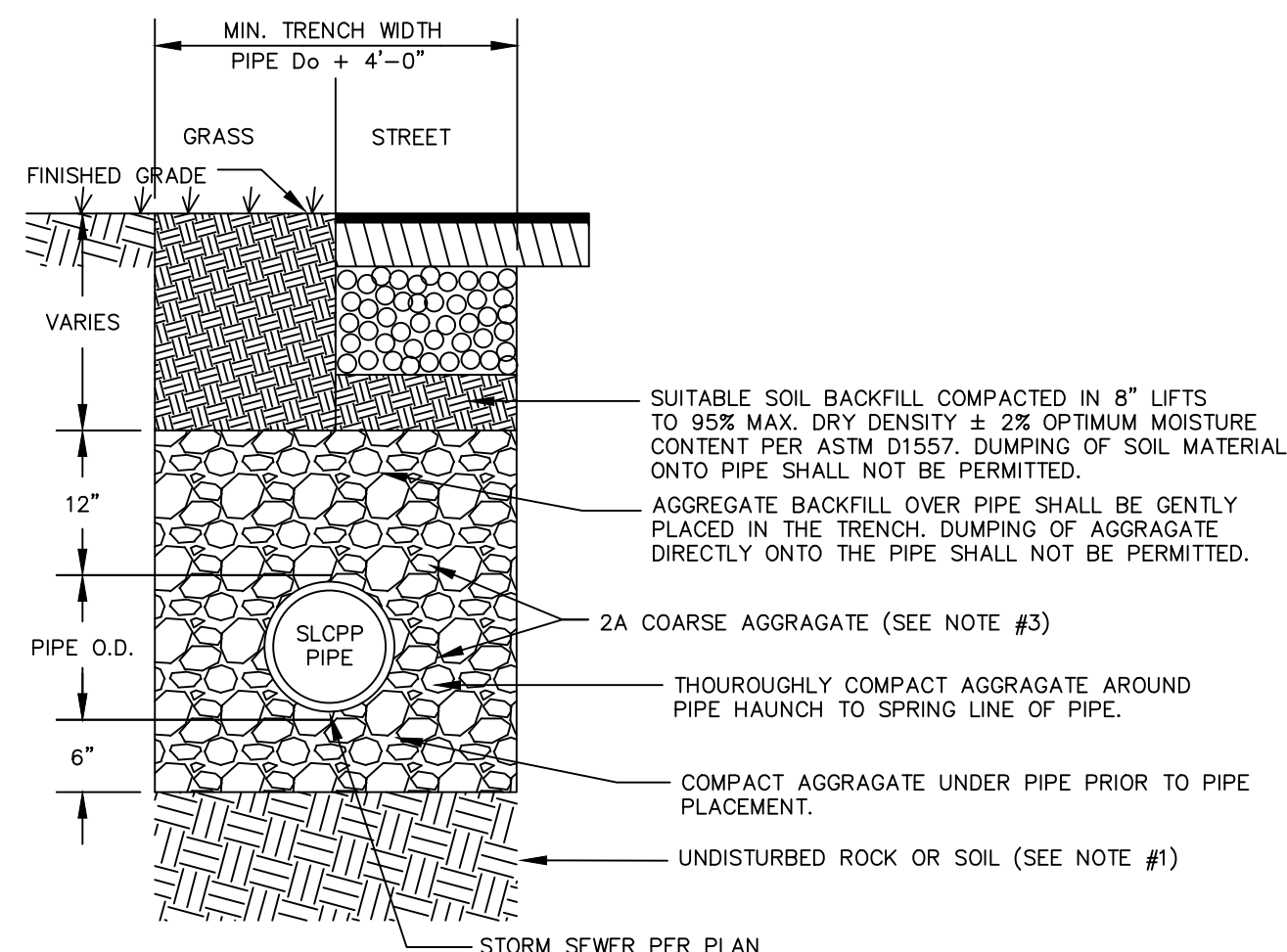
**CONCRETE CRADLE DETAIL**

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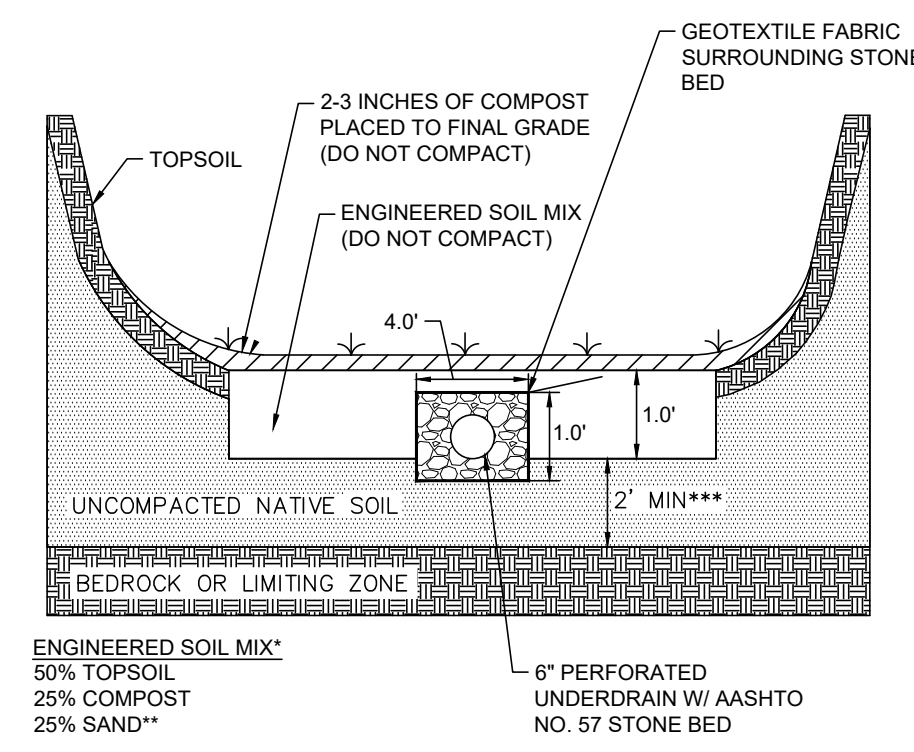
**TYPICAL STEEP SLOPE PIPE ANCHOR ASSEMBLY**

NO SCALE



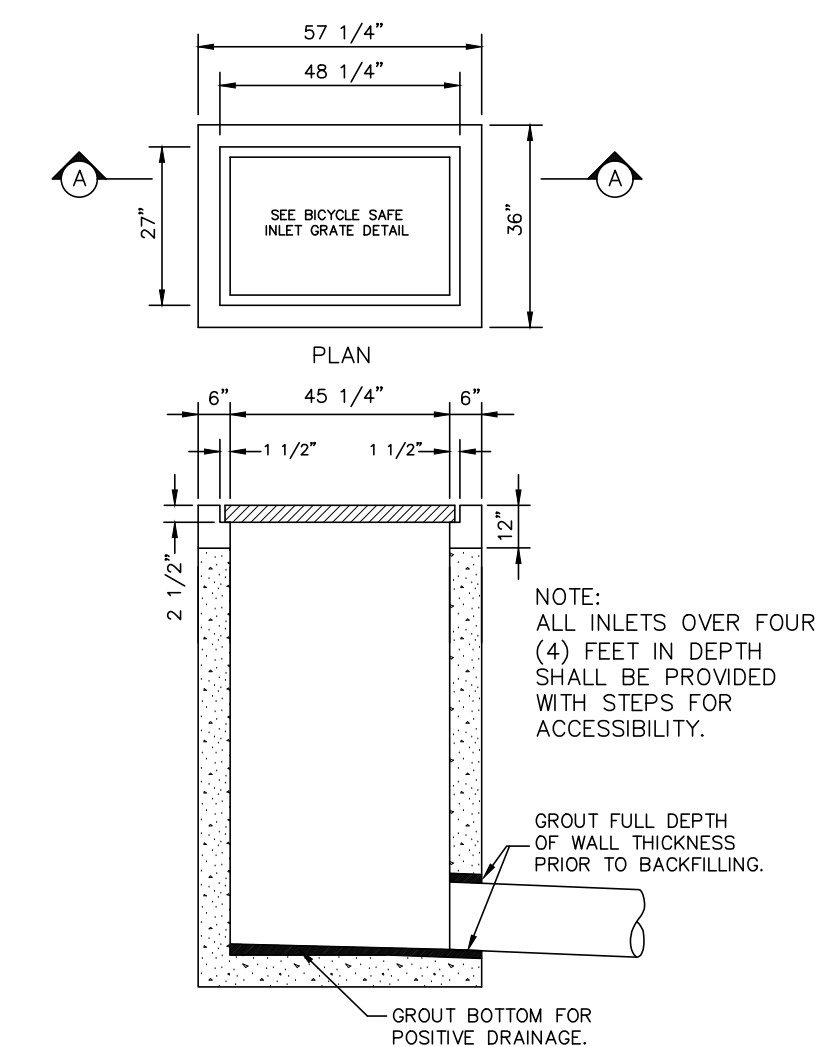
**TYPICAL TRENCH DETAIL FOR SLCPP INSTALLATION**

NO SCALE



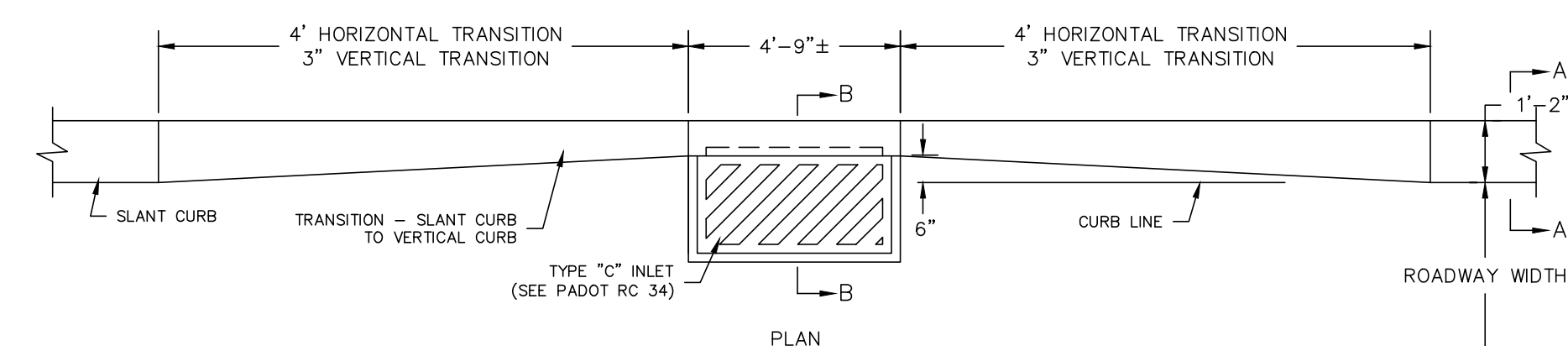
**INFILTRATION BASIN BOTTOM TYPICAL CROSS SECTION DETAIL**

NO SCALE



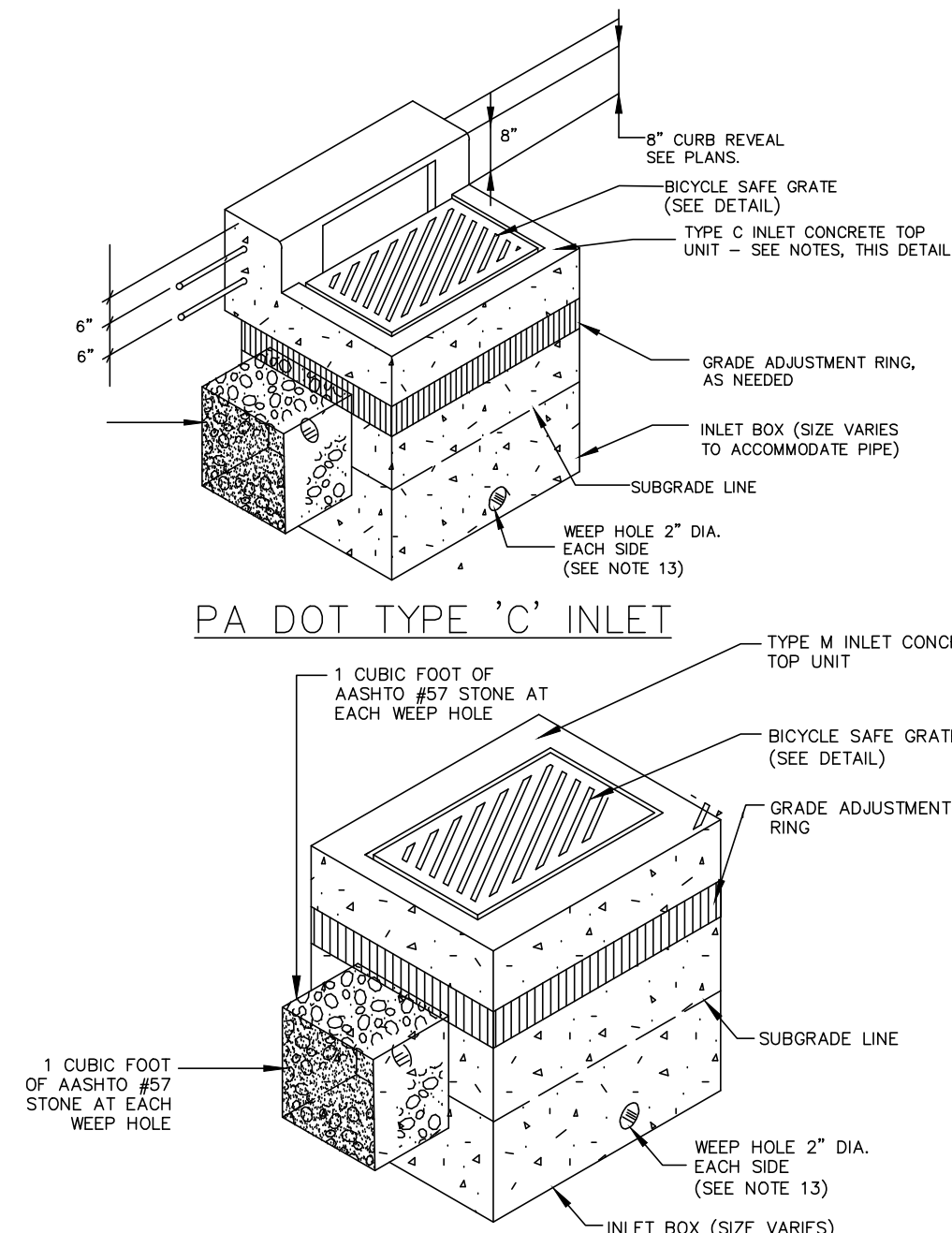
**TYPE M INLET DETAIL (RC-45M)**

NO SCALE



**SLANT CURB TO TYPE C INLET CURB TRANSITION DETAIL**

NO SCALE

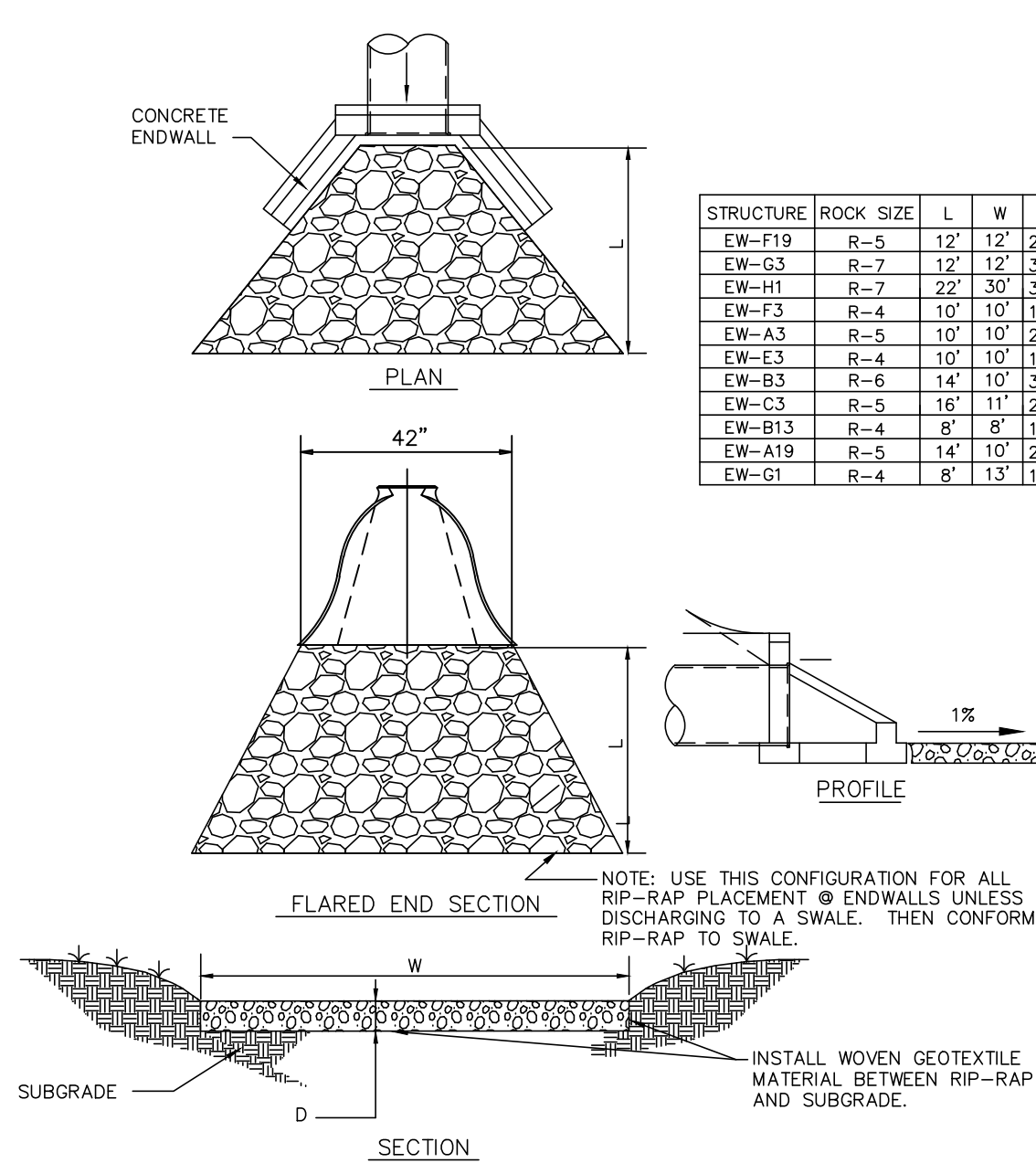


**PADOT STORMWATER INLETS (TYPE C & M)**

NO SCALE

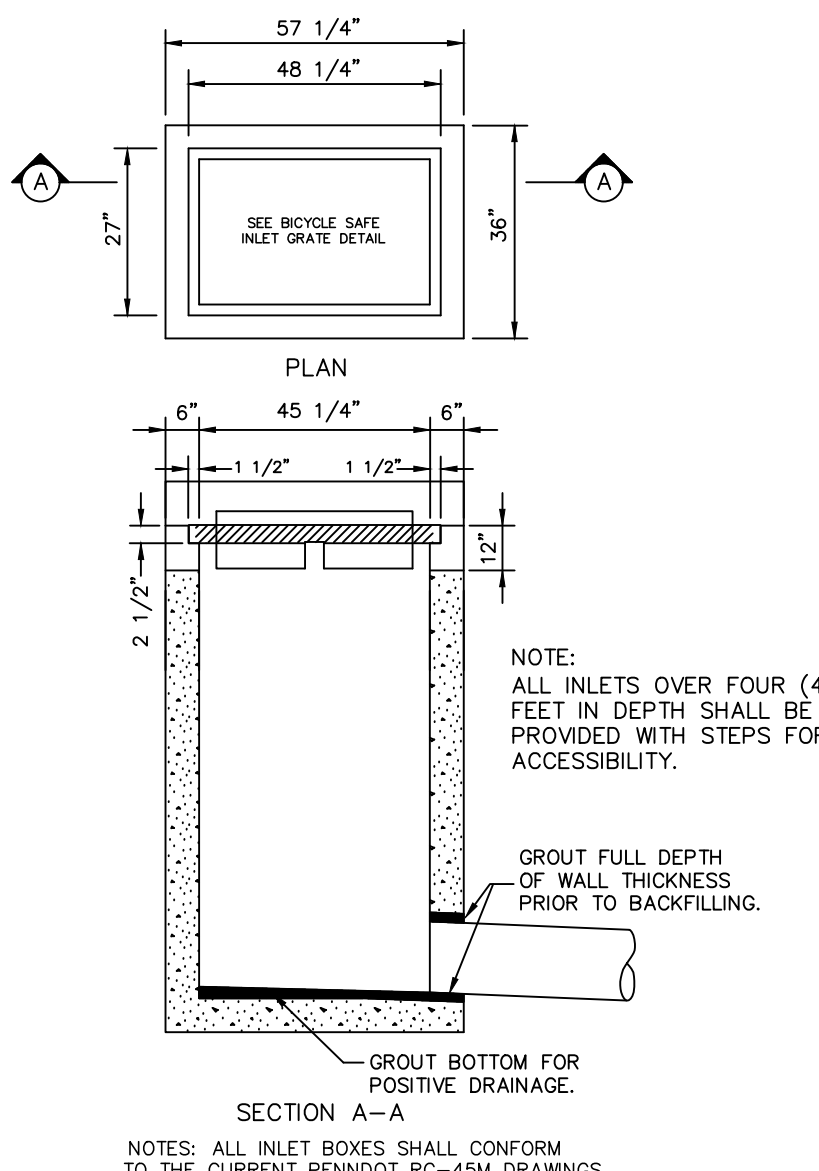
**INLET NOTES:**

- CONCRETE TOP UNITS WHICH SEAT THE GRATE DIRECTLY WITHIN THE UNIT SHALL UTILIZE 1-1/4" x 1-1/4" ANGLES EMBEDDED IN THE CONCRETE AS A BEARING AREA FOR THE GRATE.
- THIS STANDARD DEPICTS THE SHAPE AND DIMENSIONS REQUIRED FOR UNIFORMITY AND COMPATIBILITY. IT IS NOT INTENDED TO SHOW THE DETAILS REQUIRED FOR MANUFACTURING AND HANDLING. ONLY THOSE ITEMS WHICH ARE SUPPLIED BY AN APPROVED MANUFACTURER AS LISTED IN PA BULLETIN NO. 15 WILL BE PERMITTED.
- WHENEVER AN INLET IS REQUIRED WITHIN A MOUNTABLE CURB SECTION, A TYPE M INLET WILL BE LOCATED ADJACENT TO THE BACK EDGE OF THE CURB AND WILL BE FLUSH WITH THE PAVEMENT SURFACE. SEE PA DOT RC-65 FOR INSTALLATION DETAILS.
- THE SELECTION OF COMPONENTS TO ACHIEVE A SPECIFIED INLET TYPE IS THE CONTRACTOR'S RESPONSIBILITY.
- PIPES SHALL BE LOCATED AS REQUIRED.
- ALL INLETS OVER FOUR (4) FEET IN DEPTH SHALL BE PROVIDED WITH STEPS FOR ACCESSIBILITY.
- GRADE ADJUSTMENT RINGS MAY BE OF MASONRY OR PRECAST CONCRETE CONSTRUCTION, AS APPROVED.
- INLET BOX SHALL BE PRECAST CONCRETE.
- REFER TO PA DOT BUREAU OF DESIGN STANDARDS RC-45M.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH PADOT PUBLICATION 408, SECTION 605 & STANDARDS FOR ROADWAY CONSTRUCTION, RC-45M. CONTRACTOR SHALL VERIFY INLET BOX SIZING BASED ON PIPE SIZES AND ALIGNMENT PRIOR TO ORDERING PRECAST STRUCTURES.
- ALL DRAINAGE STRUCTURES SHALL HAVE POURED-IN-PLACE CONCRETE CHANNEL BOTTOM, UNLESS OTHERWISE NOTED.
- ALL STORMWATER INLET BOXES, CONCRETE TOP UNITS, AND INLET GRATES AND FRAMES SHALL CONFORM TO CURRENT PENNDOT RC-45M STANDARDS.
- ALL INLETS SHALL BE CONSTRUCTED WITH CONCRETE FLOW CHANNELS CAST IN-PLACE IN THE BOTTOM OF EACH INLET, EXCEPT THE LAST TWO INLETS BEFORE A STORM SEWER OUTFALL SHALL BE CONSTRUCTED WITH A MINIMUM 12" SUMP TO CATCH DEBRIS. INLET SUMPS SHALL HAVE WEEPHOLES.



**FLARED END SECTION/ENDWALL RIP RAP DETAIL**

NO SCALE



**TYPE C INLET DETAIL (RC-45M)**

NO SCALE

POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS

PRELIMINARY SUBDIVISION

THE ESTATES AT HEARTSIDE

located in

NORTH LEBANON TOWNSHIP

LEBANON County, Pennsylvania

**CS**

Steebuck Engineering & Surveying, Inc.  
279 Lebanon, Pennsylvania 17042  
Phone: (717) 272-7110  
Fax: (717) 272-7348

FIELD CREW: MOD,JEC

BASE MAP: JEC

DRAWN: CDS

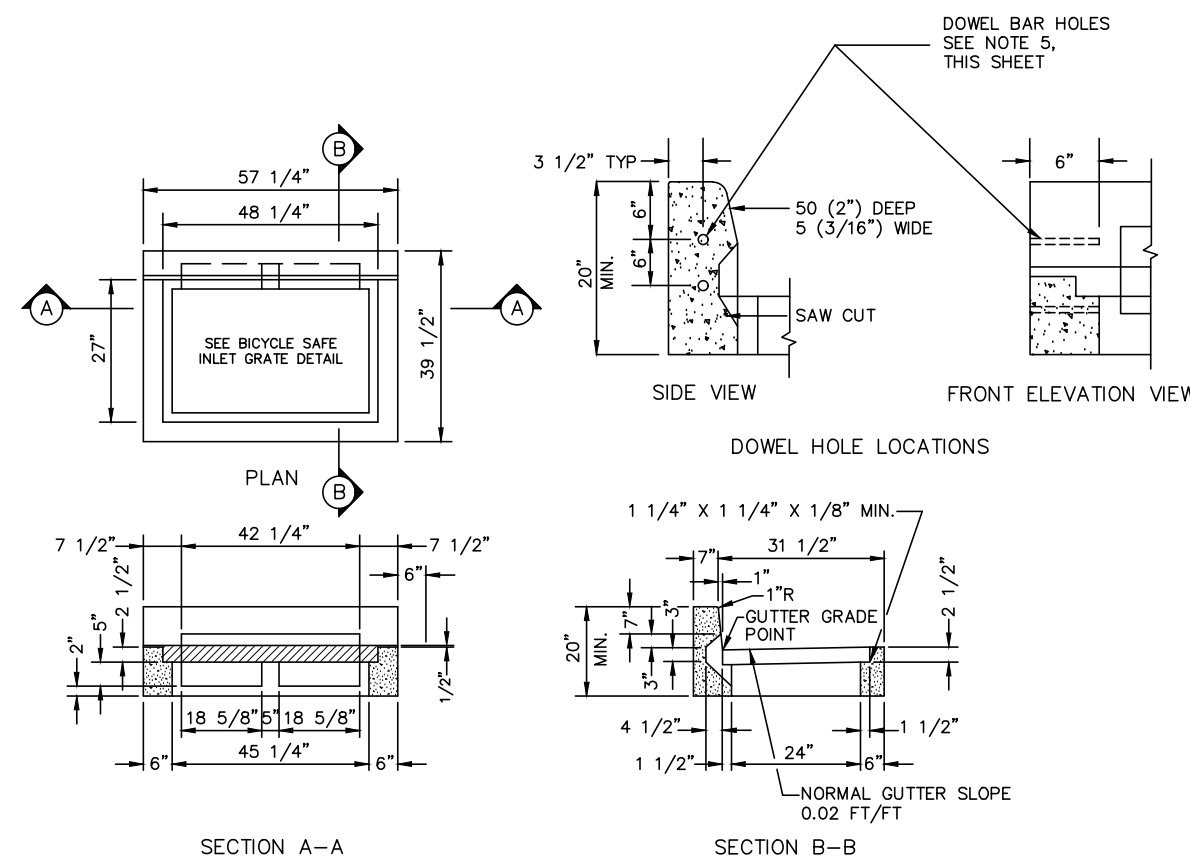
DESIGN: CDS

CHECKED: SAS

DATE: 11/4/22

SCALE: 1"=50'

PROJECT #784-22-001



NOTES: ALL TYPE DW ENDWALLS SHALL CONFORM TO THE CURRENT PENNDOT RC-45M DRAWINGS

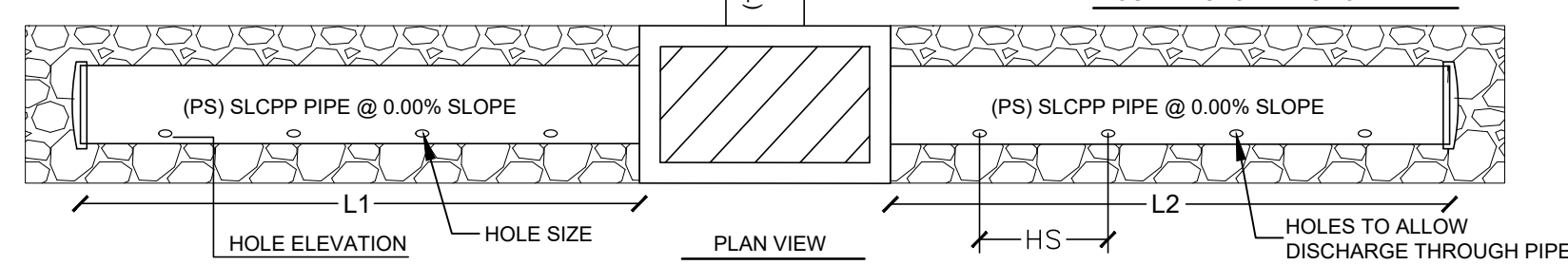
- THIS DETAIL DEPICTS THE SHAPE AND DIMENSIONS REQUIRED FOR UNIFORMITY AND COMPATIBILITY. PERMIT ONLY TOP UNITS SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15. FOR DEVIATIONS OR MODIFICATIONS OF THE STANDARDS SUBMIT SHOP DRAWINGS FOR APPROVAL.
- CAST-IN-PLACE TOP UNITS MAY BE MONOLITHIC WITH THE INLET BOX.
- PROVIDE ANGLES EMBEDDED IN THE CONCRETE AS A BEARING AREA FOR THE GRATE FOR ALL TOP UNITS WHICH SEAT THE GRATE DIRECTLY WITHIN THE UNIT.
- PLACE A TYPE M INLET ADJACENT TO THE BACK EDGE OF THE CURB, FLUSH WITH THE PAVEMENT SURFACE, WHEN REQUIRED WITHIN A CONCRETE MOUNTABLE CURB SECTION.
- DOWEL TYPE C INLET TOP UNITS WITH 2-25 x 300 (2-#8 x 1'-0") DOWEL BARS AND PLACE PREMOLDED EXPANSION JOINT FILLER 6 (1/4") WIDE WHEN CONNECTED TO ADJACENT CURB SECTION.
- THE PLACEMENT OF THE TYPE S INLET RELATIVE TO THE GUTTER INVERT IS DEPENDENT ON THE RATE OF BACK SLOPE. FOR BACK SLOPES GREATER THAN 1:2 (2:1), LOCATE THE INLET WHERE THE BACK SLOPE LINE INTERSECTS THE BACK, TOP, OUTSIDE CORNER OF THE INLET. FOR BACK SLOPES LESS THAN 1:2 (2:1), LOCATE THE INLET WHERE THE BACK SLOPE LINE INTERSECTS THE EDGE OF THE INLET GRATE.
- TAPERS MAY BE PROVIDED ON INSIDE VERTICAL FACES OF PRECAST INLET TOPS TO FACILITATE FORM STRIPPING. TAPERS WILL RESULT IN INTERNAL BOTTOM DIMENSIONS THAT VARY TO A MAXIMUM OF 25 MM (1").

**PENNDOT TYPE "C" INLET TOP**

NO SCALE

**NOTES:**

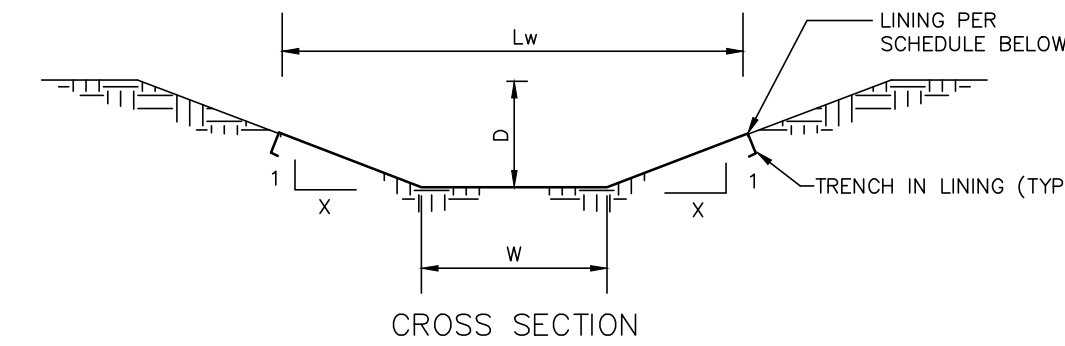
- LEVEL SPREADER PIPE SHALL BE INSTALLED FLAT WITH ALL HOLES IN THE PIPE INSTALLED AT THE SAME ELEVATION TO ALLOW EVEN DISTRIBUTION OF STORM WATER DISCHARGE.
- PROVIDE AASHTO #1 STONE AROUND PIPE HOLES TO ALLOW FOR EVEN DISTRIBUTION OF STORM WATER DISCHARGE. STONE SHALL EXTEND 12" BEYOND FRONT FACE OF STORM INLET.
- PROVIDE AN ADDITIONAL 12" (TAPERED TO 24" AT DISCHARGE ELEVATION) OF R-3 RIPRAP TO PROTECT THE AASHTO #1 STONE AND THE STORM PIPE.
- 6" OF COMPACTED 2A STONE SHALL BE PROVIDED BENEATH THE LEVEL SPREADER PIPE TO PROVIDE AN EVEN FLAT SURFACE FOR THE PIPE TO SIT ON.
- INLET SHALL BE SUMMED 12" TO ALLOW COLLECTION OF DEBRIS TO PREVENT CLOGGING OF LEVEL SPREADER PIPE. INLET SHALL BE MONITORED AND CLEANED AT LEAST TWICE PER YEAR.



BASIN OUTLET	PIPE SIZE (PS)	HOLE SIZE	HOLE ELEVATION	HOLE SPACING (HS)	# OF HOLES	L1	L2	TOTAL PIPE LENGTH (L1+L2)
A	18"	1.5"	599.20	0.362	249	70'	20'	90'
B	18"	1.5"	580.20	2.41	50	80'	40'	120'
C	18"	1.5"	588.20	4.642	13	25'	35'	60'
D	12"	1.5"	612.70	8.356	10	50'	25'	80'
E	12"	1.5"	612.70	1.215	82	50'	50'	100'
F	18"	1.5"	611.45	0.842	119	50'	50'	100'

**LEVEL SPREADER DETAIL**

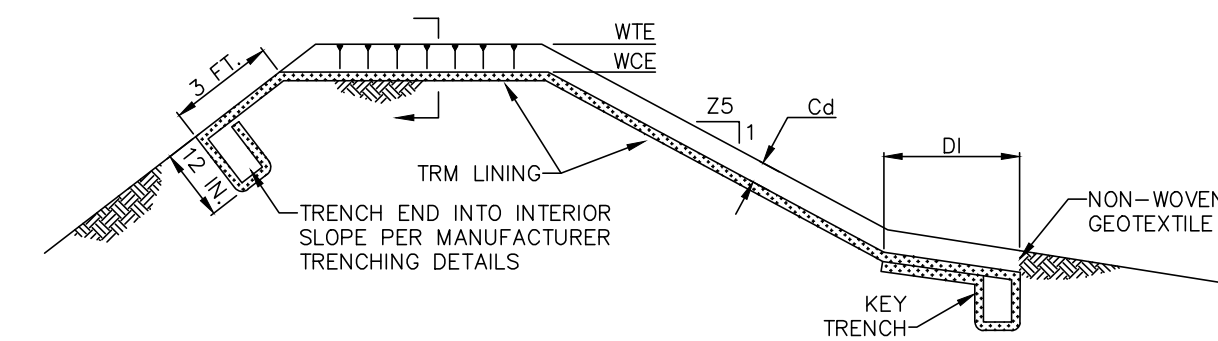
NO SCALE



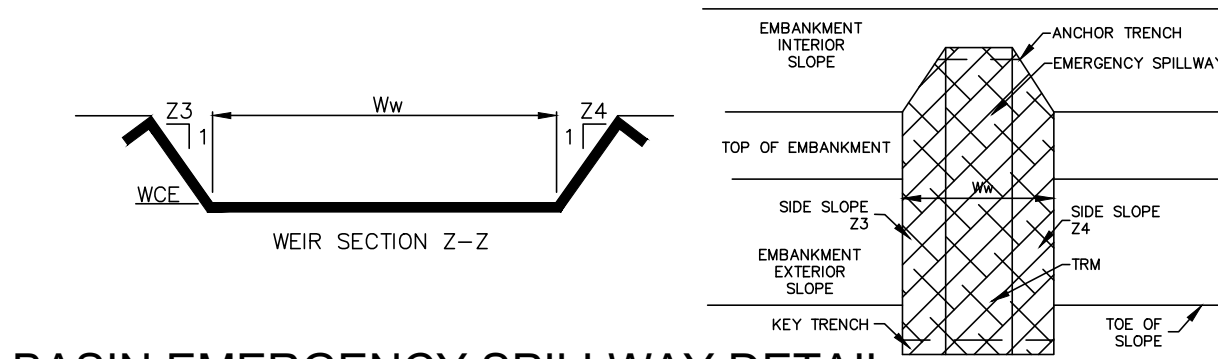
SWALE NO	WIDTH (W)	DEPTH (D)	SIDE SLOPE(X)	SLOPE %	LINING WIDTH (Lw)	LINING	TEMPORARY LINING	STAPLE PATTERN
1	1.5'	1'	4	20%	9.5'	GRASS	N.A.G. C-350	E
2	2'	1'	14	4.0%	30'	GRASS	N.A.G. S-75	D
3	2'	1'	11.5	2.6%	29'	GRASS	N.A.G. S-75	D
4	1.5'	1'	9	7.0%	19.5'	GRASS	N.A.G. P-300	E
5	1.5'	1'	6.5	6.3%	14.5'	GRASS	N.A.G. S-75	D
6	1'	1'	9	5.6%	19'	GRASS	N.A.G. S-75	D
7	1.5'	1'	10	5.4%	21.5'	GRASS	N.A.G. S-75	D
8	2'	1'	7.5	6.0%	17'	GRASS	N.A.G. P-300	E
9	1.5'	1'	7	9.8%	15.5'	GRASS	N.A.G. P-300	E
10	2'	1'	8	6.3%	18'	GRASS	N.A.G. P-300	E
11	1'	1'	7	10%	15'	GRASS	N.A.G. P-300	E
12	1'	1'	15	3.0%	31'	GRASS	N.A.G. S-75	D
13	1'	1'	3	33%	7'	GRASS	N.A.G. P-300	E
14	2'	1'	3	4.0%	8'	GRASS	N.A.G. S-75	D

**STORMWATER SWALE DETAIL**

NO SCALE

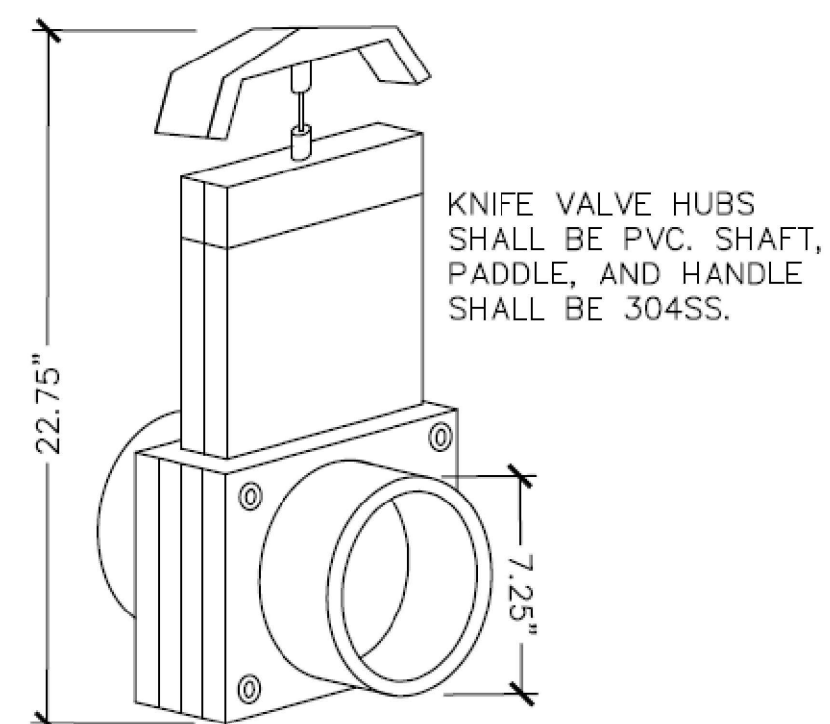


BASIN NO.	WEIR		CRREST ELEV WTE (FT)	WIDTH Ww (FT)	TRM TYPE	STAPLE PATTERN	CHANNEL		DISSIPATOR				
	Z3 (FT)	Z4 (FT)					DEPTH Cd (FT)	LENGTH D1 (FT)	WIDTH D2 (FT)	RIPRAP SIZE (R-...)	RIPRAP THICK. DR1 (IN)		
A	3	3	568.25	567.00	425	C350	E	3	1.25	7	N/A	N/A	N/A
B	3	3	591.25	590.00	175	C350	E	3	1.25	7	N/A	N/A	N/A
C	3	3	598.25	597.00	100	C350	E	3	1.25	7	N/A	N/A	N/A
D	3	3	618.25	617.00	25	C350	E	3	1.25	7	N/A	N/A	N/A
E	3	3	618.25	617.00	80	C350	E	3	1.25	7	N/A	N/A	N/A
F	3	3	616.25	615.00	350	C350	E	3	1.25	7	N/A	N/A	N/A
G	3	3	618.35	617.00	150	C350	E	3	1.35	7	N/A	N/A	N/A



**BASIN EMERGENCY SPILLWAY DETAIL**

NO SCALE

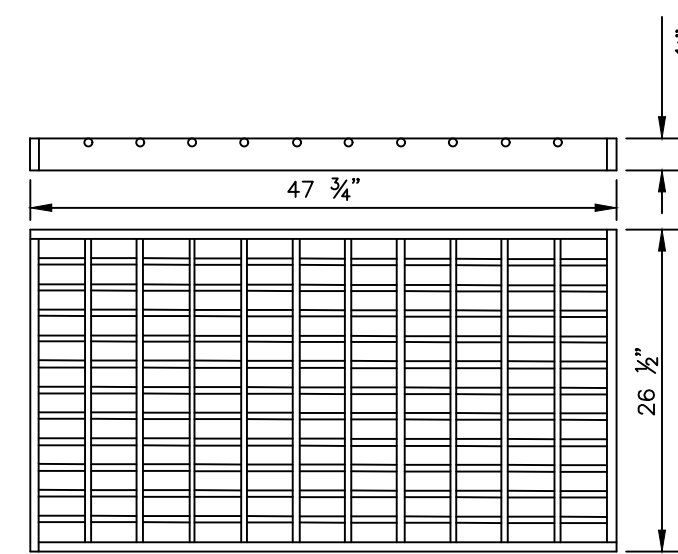


PVC KNIFE VALVE SHALL BE MANUFACTURED BY THE FOLLOWING:

- VALTERRA PRODUCTS, LLC  
MISSION HILLS, CALIFORNIA  
PHONE: 818-898-1671  
FAX: 818-361-5389
- OR APPROVED EQUAL

**6" PVC KNIFE VALVE DETAIL**

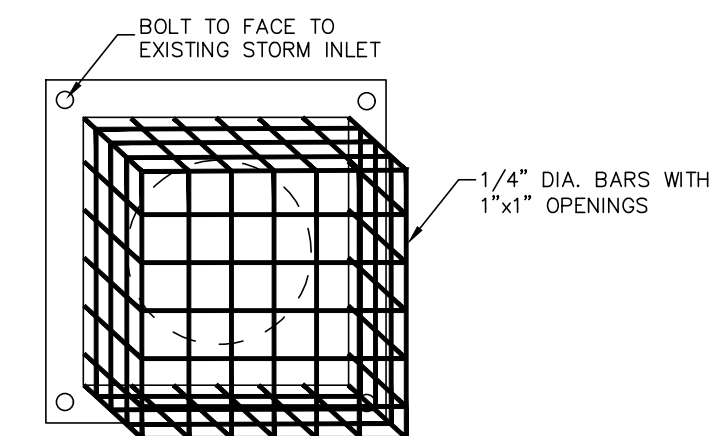
NO SCALE



- GRATES SHOWN FIT 24"x45 1/4" PRECAST TOP UNITS AND TYPES M & C STRUCTURAL STEEL FRAMES.
- ALL GRATES SHALL CONFORM TO PENNDOT PUB. 72, RC-45M.
- GRATES FOR 24"x72" PRECAST TOP UNITS AND STRUCTURAL STEEL FRAMES ARE ALSO AVAILABLE.
- ALL GRATES SHALL SAFELY WITHSTAND HS-25 HIGHWAY LOADING.
- STEEL SHALL BE DOMESTIC AND SHALL CONFORM TO ASTM A36; WELDING SHALL BE DONE BY CERTIFIED WELDERS; GRATES SHALL RECEIVE (1) SHOP COAT OF BLACK ASPHALT PAINT.

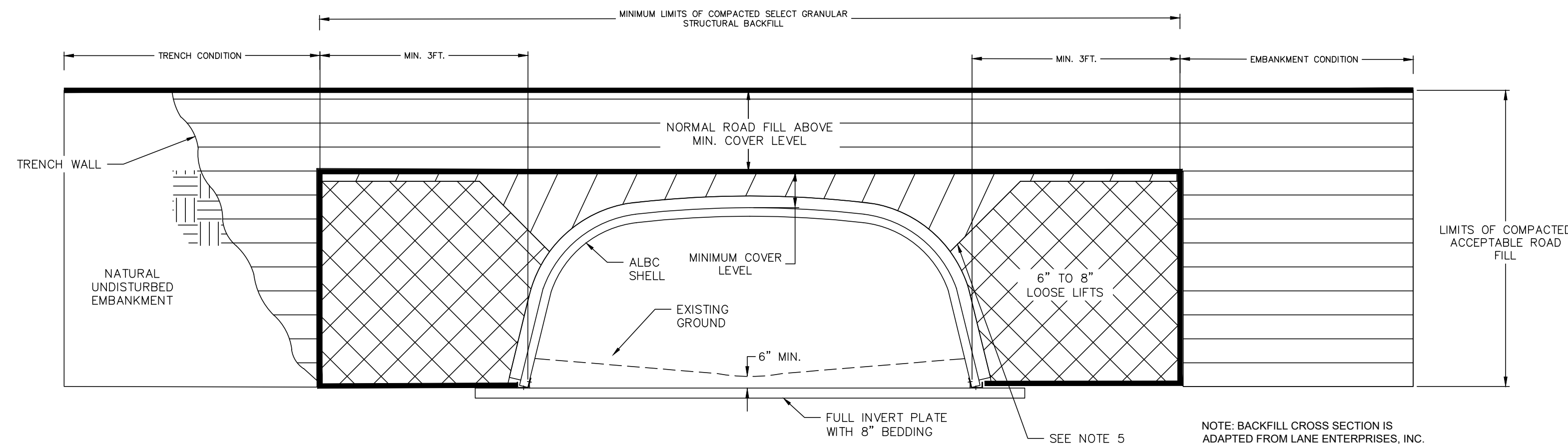
**STRUCTURAL STEEL GRATE-BICYCLE SAFE**

NO SCALE



**STORM INLET TRASH RACK DETAIL**

NO SCALE



**TYPICAL CULVERT BACKFILL CROSS SECTION**

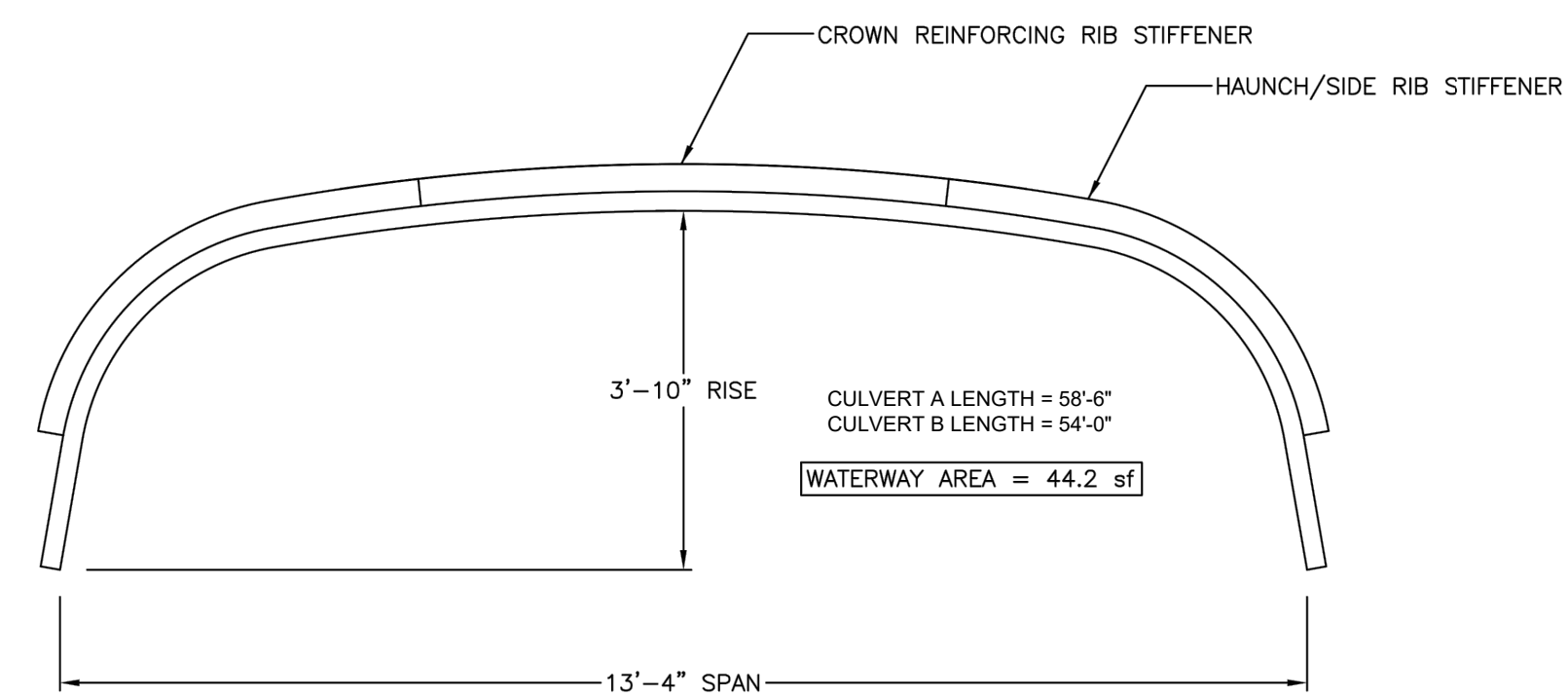
NOT TO SCALE

- SELECT GRANULAR STRUCTURAL BACKFILL LIMITS. (PENNDOT 2A)
- INITIAL LIFTS OVER CROWN OF STRUCTURE AS INDICATED BY SHADED AREA TO BE COMPACTED TO REQUIRED DENSITY WITH HAND OPERATED EQUIPMENT OR WITH SMALL TRACTOR (D-4 OR SMALLER) DRAWN EQUIPMENT.

**NOTES:**

- ALL SELECT GRANULAR BACKFILL TO BE PLACED IN A BALANCED FASHION IN THIN LIFTS (6"-8" LOOSE TYPICALLY) AND COMPACTED TO 90 PERCENT DENSITY PER AASHTO T180.
- COMPLETE AND REGULAR MONITORING OF THE ALUMINUM BOX CULVERT SHAPE IS NECESSARY DURING ALL BACKFILLING OF THE STRUCTURE.
- PREVENT DISTORTION OF THE SHAPE AS NECESSARY BY VARYING COMPACTION METHODS AND EQUIPMENT.
- TRENCH WIDTH OTHER THAN 3 FT. AS SHOWN ABOVE SHALL BE BY DIRECTION OF THE ENGINEER OF RECORD.
- SWITCH TO PLACING SELECT GRANULAR BACKFILL IN RADIAL LIFTS AT APPROXIMATELY 75% OF THE RISE OF THE STRUCTURE.

NOTE: BACKFILL CROSS SECTION IS ADAPTED FROM LANE ENTERPRISES, INC AND CONTECH ENGINEERED SOLUTIONS.

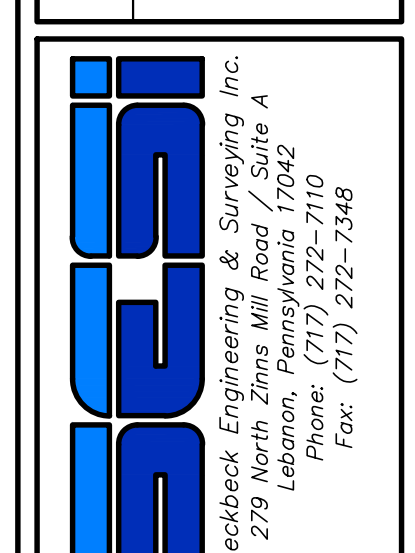


**CULVERTS A & B - ALUMINUM STRUCTURAL PLATE BOX CULVERT**

NO SCALE

NOTE: STRUCTURE SHOWN IS FROM LANE ENTERPRISES, INC.

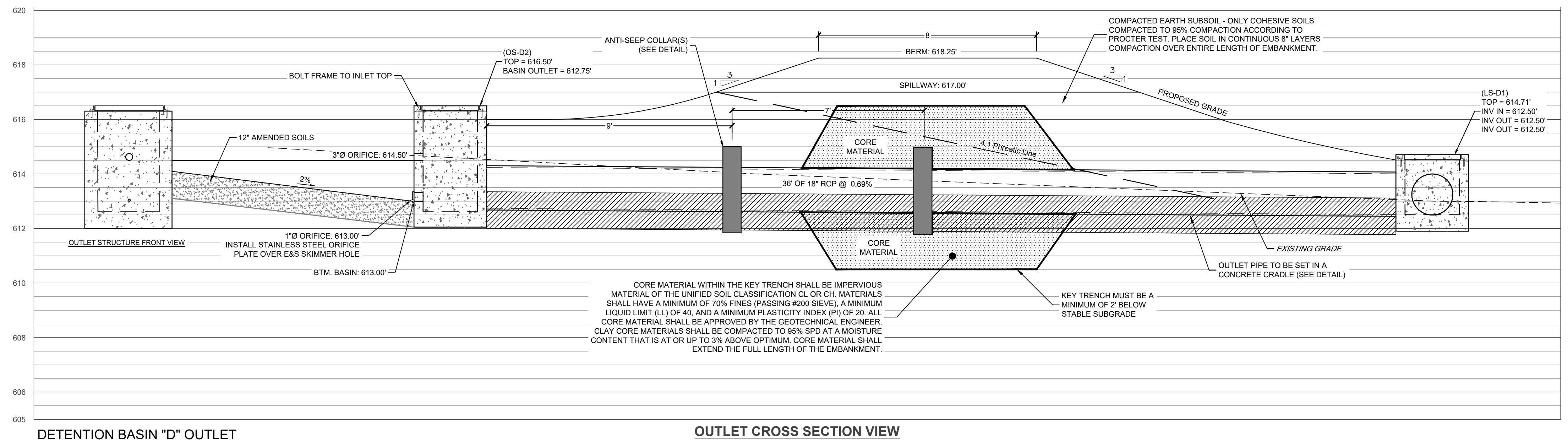
POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS  
PRELIMINARY SUBDIVISION  
For  
THE ESTATES AT HEARTHSTONE  
located in  
NORTH LEBANON TOWNSHIP  
LEBANON County, Pennsylvania



FIELD CREW:	MOD, JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=50'
PROJECT #	#784-22-001

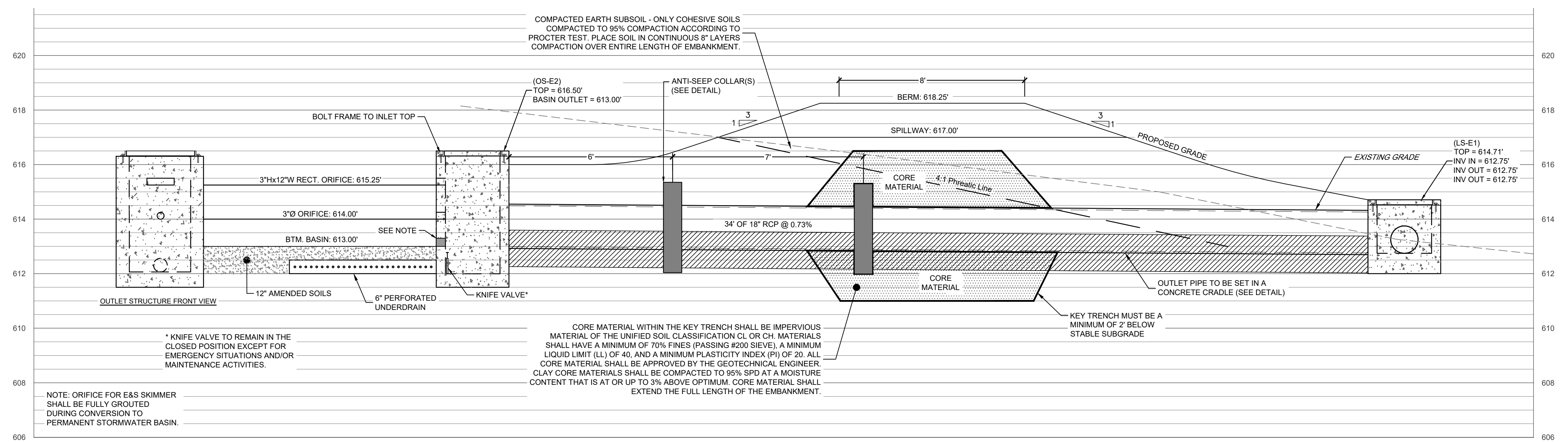






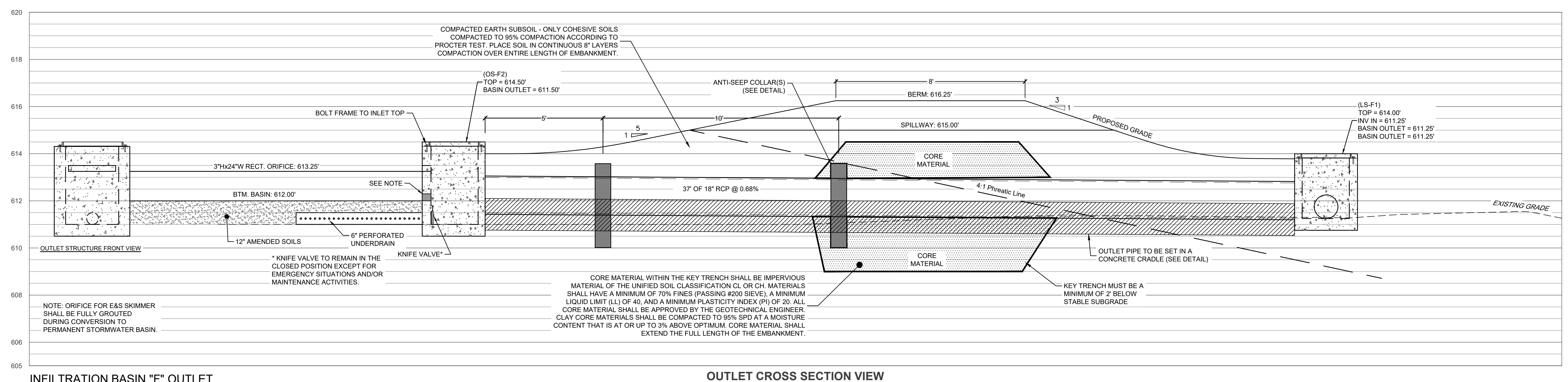
**DETENTION BASIN "D" OUTLET**

**OUTLET CROSS SECTION VIEW**



**INFILTRATION BASIN "E" OUTLET**

**OUTLET CROSS SECTION VIEW**



**INFILTRATION BASIN "F" OUTLET**

**OUTLET CROSS SECTION VIEW**

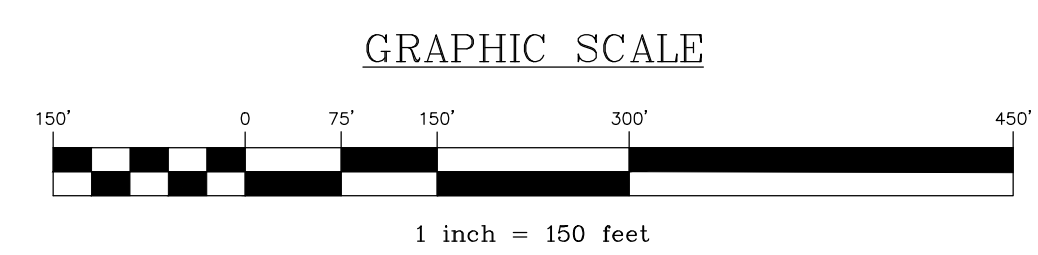
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REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS**  
PRELIMINARY SUBDIVISION  
AND LAND DEVELOPMENT PLANS  
For  
THE ESTATES AT HEARTHSTONE  
located in  
NORTH LEBANON TOWNSHIP  
Lebanon County, Pennsylvania

CSI  
Steinbeck Engineering & Surveying Inc.  
279 Lebanon, Pennsylvania 17042  
Phone: (717) 272-7110  
Fax: (717) 272-7348

FIELD CREW:	MOD, JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=150'
PROJECT #	784-22-001





**LEGEND**

	<b>EXISTING FEATURES</b>
	EXISTING ADJOINER LINE
	EXISTING BOUNDARY LINE AND CORNERS
	EXISTING EDGE OF PAVEMENT AND CURB LINE
	EXISTING RIGHT-OF-WAY
	EXISTING FENCE
	EXISTING SEWER
	EXISTING STORMWATER
	EXISTING WATERLINE
	EXISTING GASLINE
	EXISTING SIDEWALK/CONCRETE
	EXISTING CONTOURS
	EXISTING TREELINE
	EXISTING TOWNSHIP BOUNDARY
	LIMITS OF FIELD SURVEY
	EXISTING SOILS
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	<b>PROPOSED FEATURES</b>
	PROPOSED BUILDING SETBACK
	PROPOSED BOUNDARY LINE AND CORNERS
	PROPOSED EDGE OF PAVEMENT AND CURB LINE
	PROPOSED RIGHT-OF-WAY
	PROPOSED FENCE
	PROPOSED SEWER
	PROPOSED STORMWATER
	PROPOSED DOMESTIC WATERLINE
	PROPOSED GASLINE
	PROPOSED CONCRETE/SIDEWALK
	PROPOSED CONTOURS
	PROPOSED TREELINE
	PROPOSED UTILITY POLE
	PROPOSED LIGHT POLE

**OVERALL GRADING PLAN**  
**PRELIMINARY SUBDIVISION**  
**AND LAND DEVELOPMENT PLANS**  
 For  
**THE ESTATES AT HEARTSIDE**  
located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

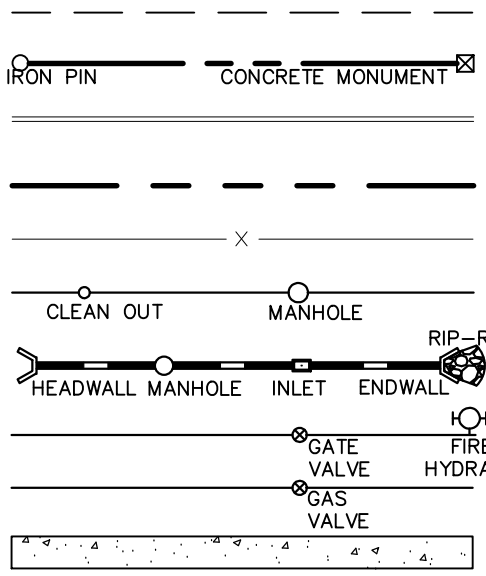
**esi**  
 Steckbeck Engineering & Surveying, Inc.  
 279 Lebanon, Pennsylvania 17042  
 Phone: (717) 272-7110  
 Fax: (717) 272-7348

FIELD CREW:	MOD, JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=150'
PROJECT #	784-22-001

REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

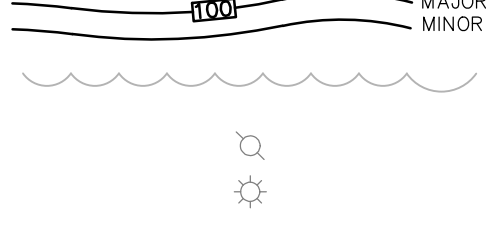
**LEGEND**

- EXISTING FEATURES**
- EXISTING ADJOINER LINE
  - EXISTING BOUNDARY LINE AND CORNERS
  - EXISTING EDGE OF PAVEMENT AND CURB LINE
  - EXISTING RIGHT-OF-WAY
  - EXISTING FENCE
  - EXISTING SEWER
  - EXISTING STORMWATER
  - EXISTING WATERLINE
  - EXISTING GASLINE
  - EXISTING SIDEWALK/CONCRETE
  - EXISTING CONTOURS
  - EXISTING TREELINE
  - EXISTING TOWNSHIP BOUNDARY
  - LIMITS OF FIELD SURVEY
  - EXISTING SOILS
  - EXISTING UTILITY POLE
  - EXISTING LIGHT POLE



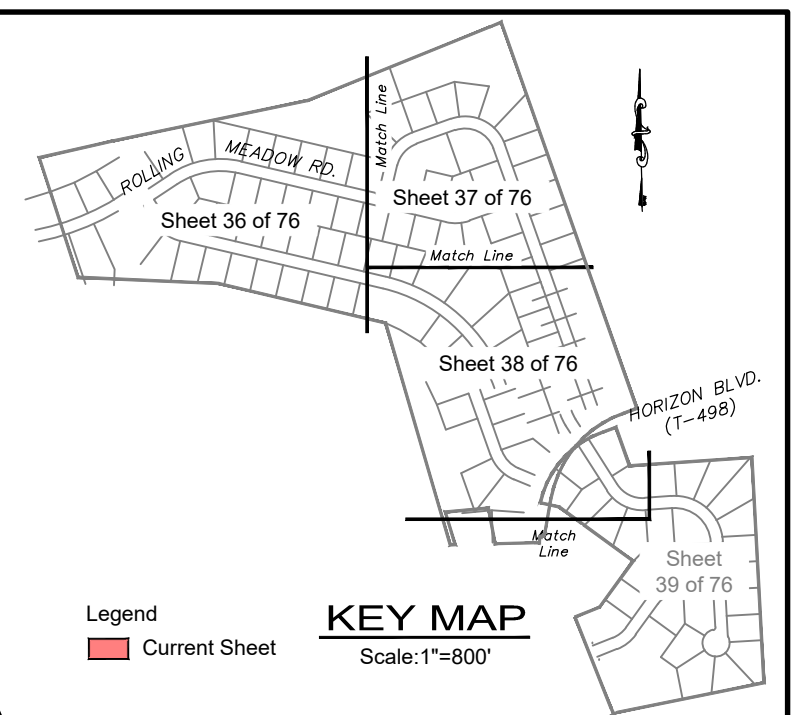
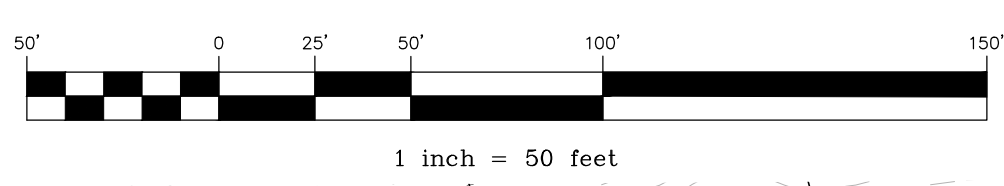
**PROPOSED FEATURES**

- PROPOSED BUILDING SETBACK
- PROPOSED BOUNDARY LINE AND CORNERS
- PROPOSED EDGE OF PAVEMENT AND CURB LINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED FENCE
- PROPOSED SEWER
- PROPOSED STORMWATER
- PROPOSED DOMESTIC WATERLINE
- PROPOSED GASLINE
- PROPOSED CONCRETE/SIDEWALK



- PROPOSED CONTOURS
- PROPOSED TREELINE
- PROPOSED UTILITY POLE
- PROPOSED LIGHT POLE

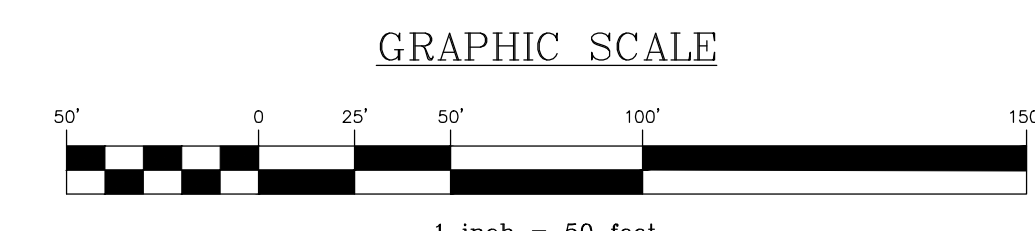
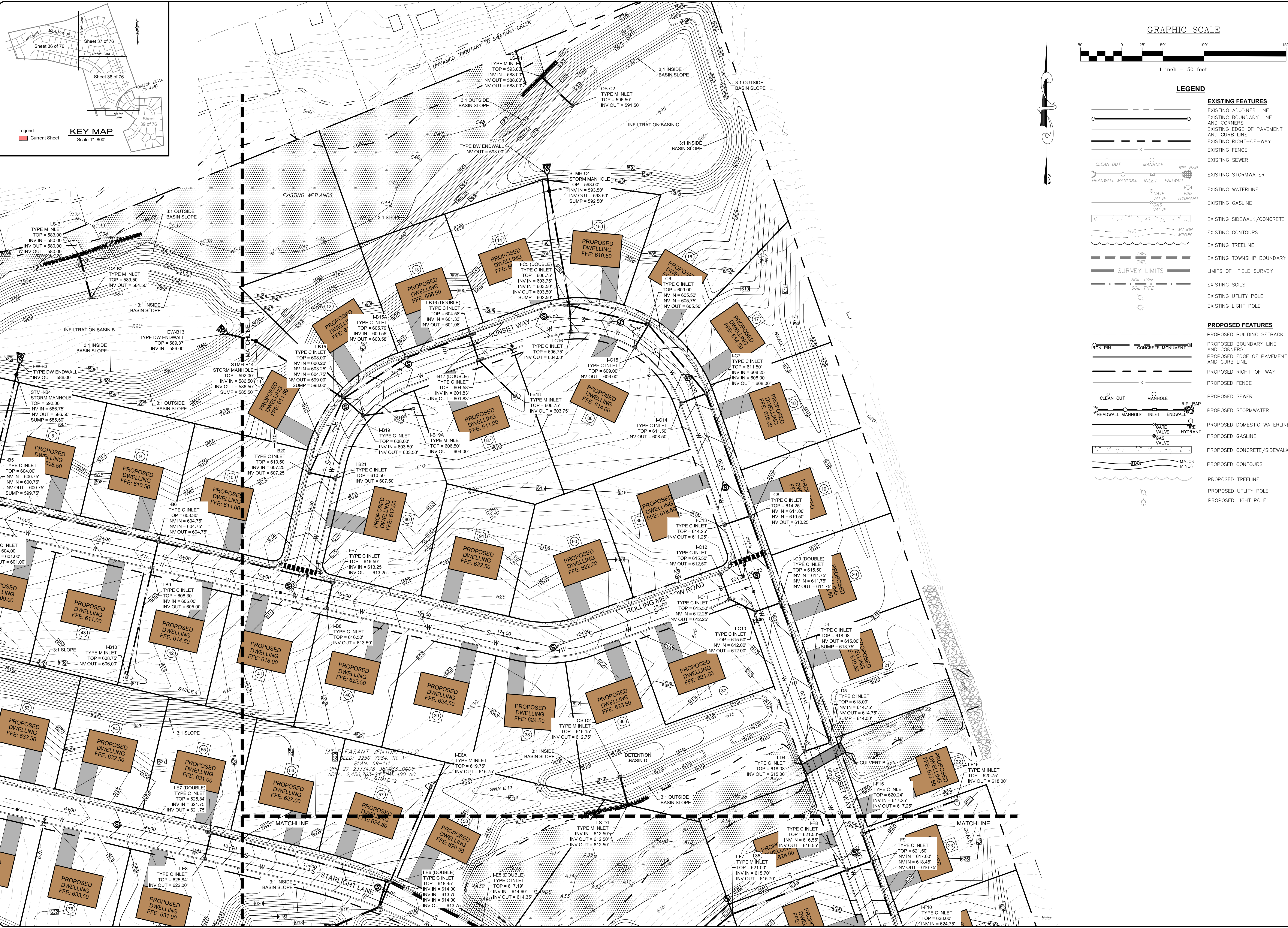
**GRAPHIC SCALE**



REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**GRADING PLAN**  
 PRELIMINARY SUBDIVISION  
 For  
**THE ESTATES AT HEARTSIDE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

FIELD CREW: MOD/JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT # 784-22-001

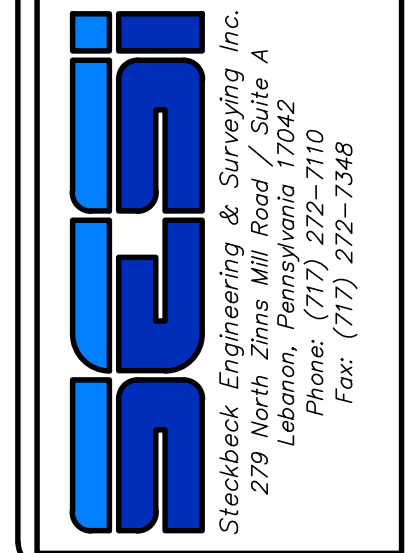


**LEGEND**

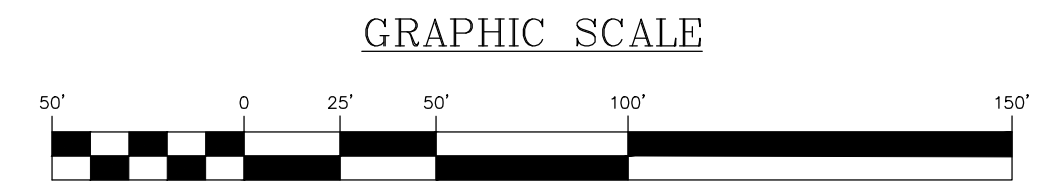
Symbol	Description
--- (dashed line)	EXISTING ADJOINER LINE
--- (dashed line)	EXISTING BOUNDARY LINE AND CORNERS
--- (dashed line)	EXISTING EDGE OF PAVEMENT AND CURB LINE
--- (dashed line)	EXISTING RIGHT-OF-WAY
--- (dashed line)	EXISTING FENCE
--- (dashed line)	EXISTING SEWER
--- (dashed line)	EXISTING STORMWATER
--- (dashed line)	EXISTING WATERLINE
--- (dashed line)	EXISTING GASLINE
--- (dashed line)	EXISTING SIDEWALK/CONCRETE
--- (dashed line)	EXISTING CONTOURS
--- (dashed line)	EXISTING TREELINE
--- (dashed line)	EXISTING TOWNSHIP BOUNDARY
--- (dashed line)	LIMITS OF FIELD SURVEY
--- (dashed line)	EXISTING SOILS
--- (dashed line)	EXISTING UTILITY POLE
--- (dashed line)	EXISTING LIGHT POLE
--- (dashed line)	<b>PROPOSED FEATURES</b>
--- (dashed line)	PROPOSED BUILDING SETBACK
--- (dashed line)	PROPOSED BOUNDARY LINE AND CORNERS
--- (dashed line)	PROPOSED EDGE OF PAVEMENT AND CURB LINE
--- (dashed line)	PROPOSED RIGHT-OF-WAY
--- (dashed line)	PROPOSED FENCE
--- (dashed line)	PROPOSED SEWER
--- (dashed line)	PROPOSED STORMWATER
--- (dashed line)	PROPOSED DOMESTIC WATERLINE
--- (dashed line)	PROPOSED GASLINE
--- (dashed line)	PROPOSED CONCRETE/SIDEWALK
--- (dashed line)	PROPOSED CONTOURS
--- (dashed line)	PROPOSED TREELINE
--- (dashed line)	PROPOSED UTILITY POLE
--- (dashed line)	PROPOSED LIGHT POLE

REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**GRADING PLAN**  
 For  
**PRELIMINARY SUBDIVISION**  
**THE ESTATES AT HEARTHSTONE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania



FIELD CREW:	MOD/JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=50'
PROJECT #	784-22-001

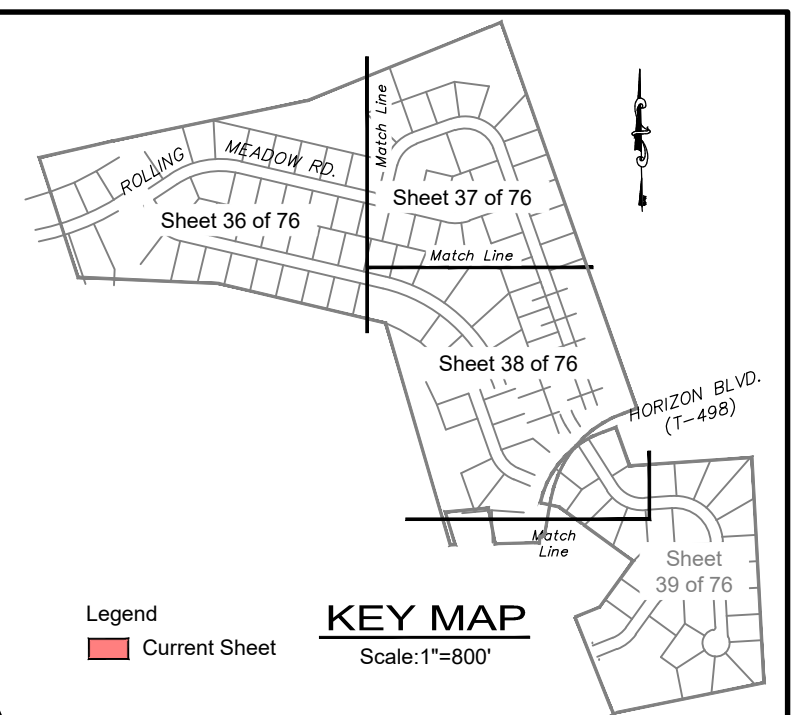


LEGEND	
<b>EXISTING FEATURES</b>	
[Symbol]	EXISTING ADJOINER LINE
[Symbol]	EXISTING BOUNDARY LINE AND CORNERS
[Symbol]	EXISTING EDGE OF PAVEMENT AND CURB LINE
[Symbol]	EXISTING RIGHT-OF-WAY
[Symbol]	EXISTING FENCE
[Symbol]	EXISTING SEWER
[Symbol]	EXISTING STORMWATER
[Symbol]	EXISTING WATERLINE
[Symbol]	EXISTING GASLINE
[Symbol]	EXISTING SIDEWALK/CONCRETE
[Symbol]	EXISTING CONTOURS
[Symbol]	EXISTING TREELINE
[Symbol]	EXISTING TOWNSHIP BOUNDARY
[Symbol]	LIMITS OF FIELD SURVEY
[Symbol]	EXISTING SOILS
[Symbol]	EXISTING UTILITY POLE
[Symbol]	EXISTING LIGHT POLE
<b>PROPOSED FEATURES</b>	
[Symbol]	PROPOSED BUILDING SETBACK
[Symbol]	PROPOSED BOUNDARY LINE AND CORNERS
[Symbol]	PROPOSED EDGE OF PAVEMENT AND CURB LINE
[Symbol]	PROPOSED RIGHT-OF-WAY
[Symbol]	PROPOSED FENCE
[Symbol]	PROPOSED SEWER
[Symbol]	PROPOSED STORMWATER
[Symbol]	PROPOSED DOMESTIC WATERLINE
[Symbol]	PROPOSED GASLINE
[Symbol]	PROPOSED CONCRETE/SIDEWALK
[Symbol]	PROPOSED CONTOURS
[Symbol]	PROPOSED TREELINE
[Symbol]	PROPOSED UTILITY POLE
[Symbol]	PROPOSED LIGHT POLE

REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCDF LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

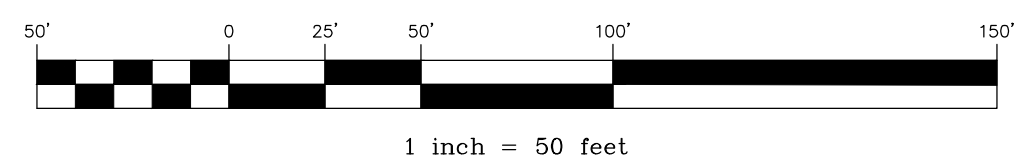
**GRADING PLAN**  
 PRELIMINARY SUBDIVISION  
 For  
**THE ESTATES AT HEARTHSE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

FIELD CREW:	MOD, JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=50'
PROJECT #	784-22-001



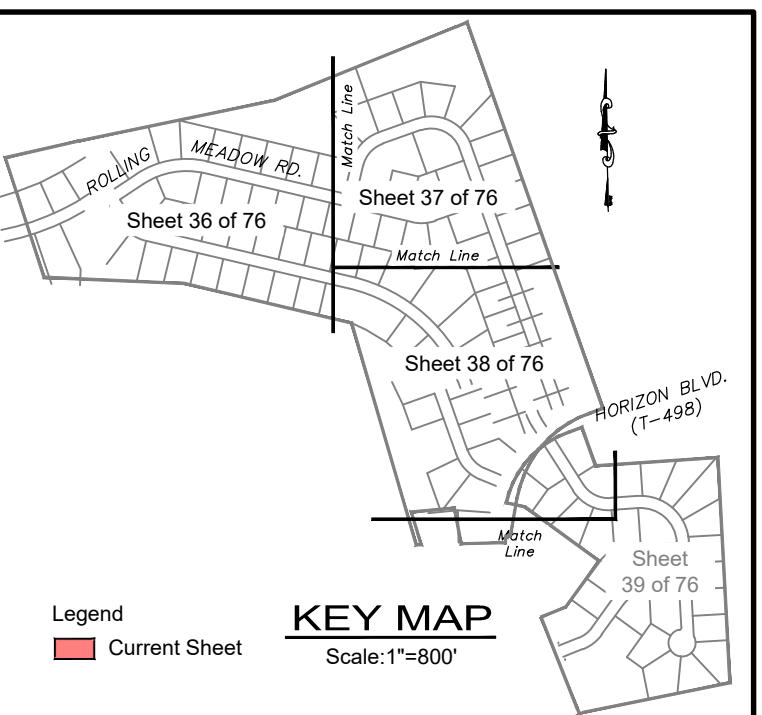


**GRAPHIC SCALE**



**LEGEND**

- | EXISTING FEATURES |   | PROPOSED FEATURES |   |
|-------------------|---|-------------------|---|
|                   | EXISTING ADJOINER LINE                  |                   | PROPOSED BUILDING SETBACK               |
|                   | EXISTING BOUNDARY LINE AND CORNERS      |                   | PROPOSED BOUNDARY LINE AND CORNERS      |
|                   | EXISTING EDGE OF PAVEMENT AND CURB LINE |                   | PROPOSED EDGE OF PAVEMENT AND CURB LINE |
|                   | EXISTING RIGHT-OF-WAY                   |                   | PROPOSED RIGHT-OF-WAY                   |
|                   | EXISTING FENCE                          |                   | PROPOSED FENCE                          |
|                   | EXISTING SEWER                          |                   | PROPOSED SEWER                          |
|                   | EXISTING STORMWATER                     |                   | PROPOSED STORMWATER                     |
|                   | EXISTING WATERLINE                      |                   | PROPOSED DOMESTIC WATERLINE             |
|                   | EXISTING GASLINE                        |                   | PROPOSED GASLINE                        |
|                   | EXISTING SIDEWALK/CONCRETE              |                   | PROPOSED CONCRETE/SIDEWALK              |
|                   | EXISTING CONTOURS                       |                   | PROPOSED CONTOURS                       |
|                   | EXISTING TREELINE                       |                   | PROPOSED TREELINE                       |
|                   | EXISTING TOWNSHIP BOUNDARY              |                   | PROPOSED UTILITY POLE                   |
|                   | LIMITS OF FIELD SURVEY                  |                   | PROPOSED LIGHT POLE                     |
|                   | EXISTING SOILS                          |                   |   |
|                   | EXISTING UTILITY POLE                   |                   |   |
|                   | EXISTING LIGHT POLE                     |                   |   |

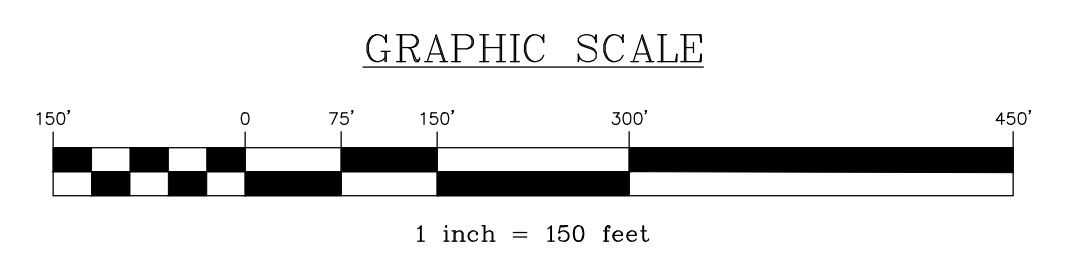


REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**GRADING PLAN**  
 PRELIMINARY SUBDIVISION  
 For  
**THE ESTATES AT HEARSTIDE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

Steadbeck Engineering & Surveying, Inc.  
 279 Lebanon, Pennsylvania 17042  
 Phone: (717) 272-7110  
 Fax: (717) 272-7348

FIELD CREW: MOD,JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT # 784-22-001



**LEGEND**

	<b>EXISTING FEATURES</b>
	EXISTING ADJOINER LINE
	EXISTING BOUNDARY LINE AND CORNERS
	EXISTING EDGE OF PAVEMENT AND CURB LINE
	EXISTING RIGHT-OF-WAY
	EXISTING FENCE
	EXISTING SEWER
	EXISTING STORMWATER
	EXISTING WATERLINE
	EXISTING GASLINE
	EXISTING SIDEWALK/CONCRETE
	EXISTING CONTOURS
	EXISTING TREELINE
	EXISTING TOWNSHIP BOUNDARY
	LIMITS OF FIELD SURVEY
	EXISTING SOILS
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	<b>PROPOSED FEATURES</b>
	PROPOSED BUILDING SETBACK
	PROPOSED BOUNDARY LINE AND CORNERS
	PROPOSED EDGE OF PAVEMENT AND CURB LINE
	PROPOSED RIGHT-OF-WAY
	PROPOSED FENCE
	PROPOSED SEWER
	PROPOSED STORMWATER
	PROPOSED DOMESTIC WATERLINE
	PROPOSED GASLINE
	PROPOSED CONCRETE/SIDEWALK
	PROPOSED CONTOURS
	PROPOSED TREELINE
	PROPOSED UTILITY POLE
	PROPOSED LIGHT POLE
	PROPOSED WATER METER PIT

- WATER MAIN NOTES:**
1. CONTRACTOR SHALL USE BENDS AS NECESSARY TO ACHIEVE PROPOSED WATER MAIN LAYOUT.
  2. PIPE DEFLECTION IS TO BE A MAXIMUM OF HALF OF THE MANUFACTURERS' RECOMMENDATION.
  3. ALL 11.25° BENDS WERE USED IN THE DESIGN OF THE PROPOSED WATER MAIN. WHERE BENDS ARE NOT SHOWN, HALF OF THE MANUFACTURERS' RECOMMENDATION ON PIPE DEFLECTION SHALL BE USED.
  4. CURB STOPS TO BE INSTALLED JUST INSIDE THE CURB LINE (WITHIN BEAUTY STRIP IF SIDEWALK IS PROPOSED) WITH THE METER PIT TO BE WITHIN 2'-8" OF THE CURB STOP (OPPOSITE SIDE OF SIDEWALK IF SIDEWALK IS PROPOSED).

- NOTES:**
1. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO PURCHASE AND INSTALL FIRE HYDRANT MARKERS FOR ALL NEWLY INSTALLED FIRE HYDRANTS.

REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**OVERALL UTILITY PLAN**  
 PRELIMINARY SUBDIVISION  
 AND LAND DEVELOPMENT PLANS  
 For  
**THE ESTATES AT HEARTSIDE**  
located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

Steadbeck Engineering & Surveying, Inc.  
 279 Lebanon, Pennsylvania 17042  
 Phone: (717) 272-7110  
 Fax: (717) 272-7348

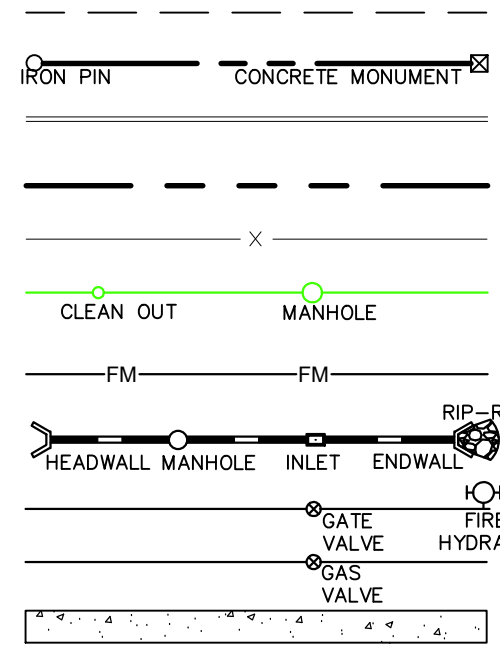
FIELD CREW:	MOD, JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=150'
PROJECT #	#784-22-001



**LEGEND**

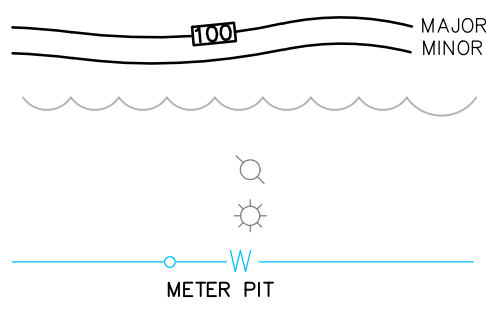
**EXISTING FEATURES**

- EXISTING ADJOINER LINE
- EXISTING BOUNDARY LINE AND CORNERS
- EXISTING EDGE OF PAVEMENT AND CURB LINE
- EXISTING RIGHT-OF-WAY
- EXISTING FENCE
- EXISTING SEWER
- EXISTING STORMWATER
- EXISTING WATERLINE
- EXISTING GASLINE
- EXISTING SIDEWALK/CONCRETE
- EXISTING CONTOURS
- EXISTING TREELINE
- EXISTING TOWNSHIP BOUNDARY
- LIMITS OF FIELD SURVEY
- EXISTING SOILS
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE



**PROPOSED FEATURES**

- PROPOSED BUILDING SETBACK
- PROPOSED BOUNDARY LINE AND CORNERS
- PROPOSED EDGE OF PAVEMENT AND CURB LINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED FENCE
- PROPOSED SEWER
- PROPOSED FORCE MAIN
- PROPOSED STORMWATER
- PROPOSED DOMESTIC WATERLINE
- PROPOSED GASLINE
- PROPOSED CONCRETE/SIDEWALK



PROPOSED CONTOURS

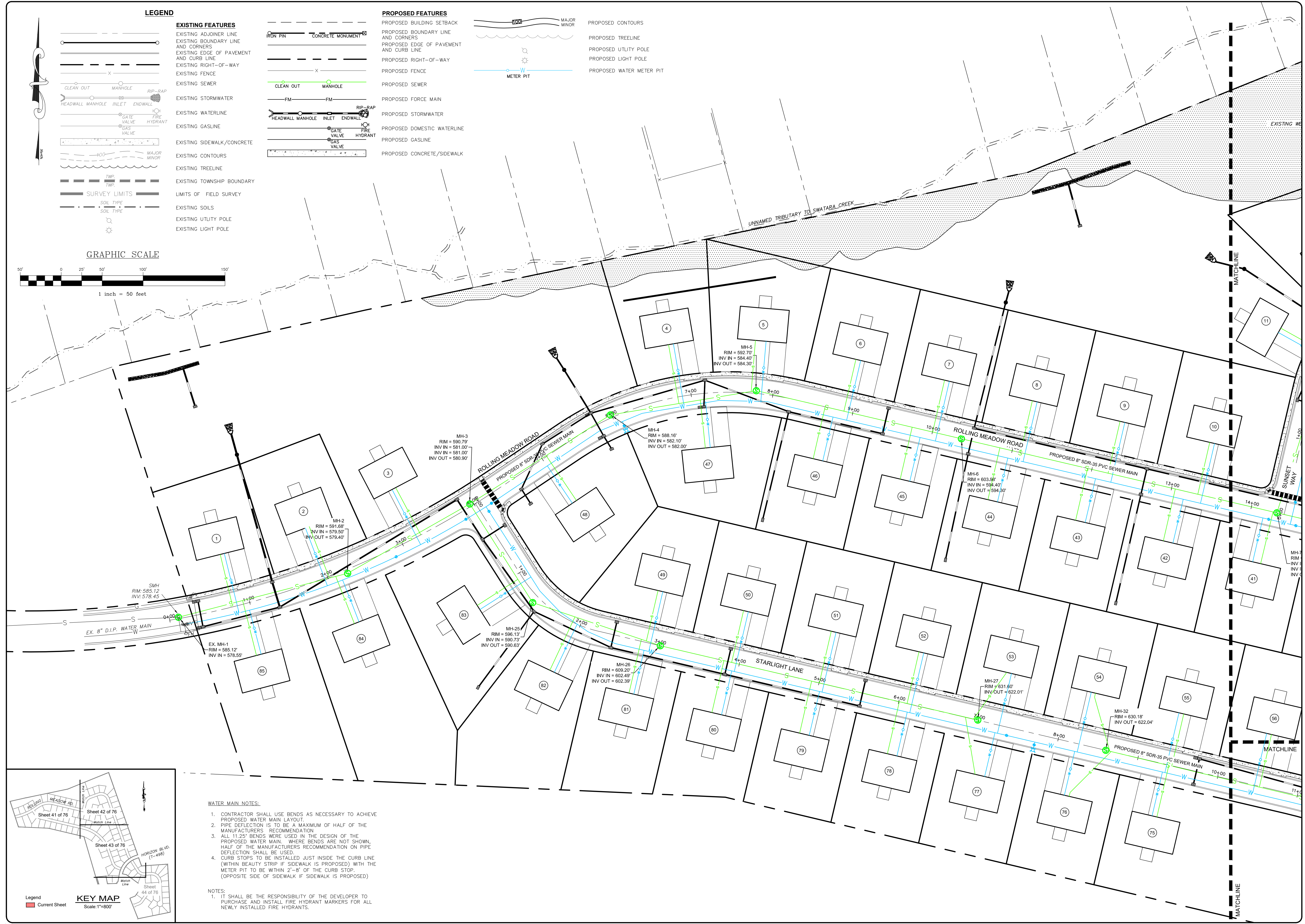
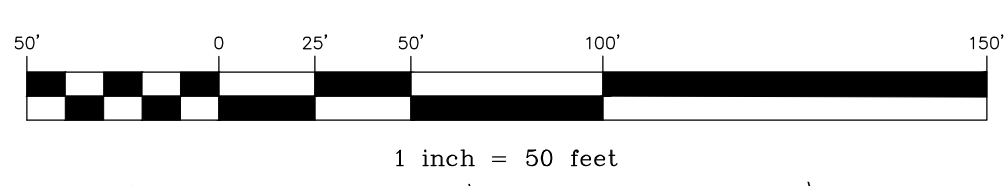
PROPOSED TREELINE

PROPOSED UTILITY POLE

PROPOSED LIGHT POLE

PROPOSED WATER METER PIT

**GRAPHIC SCALE**

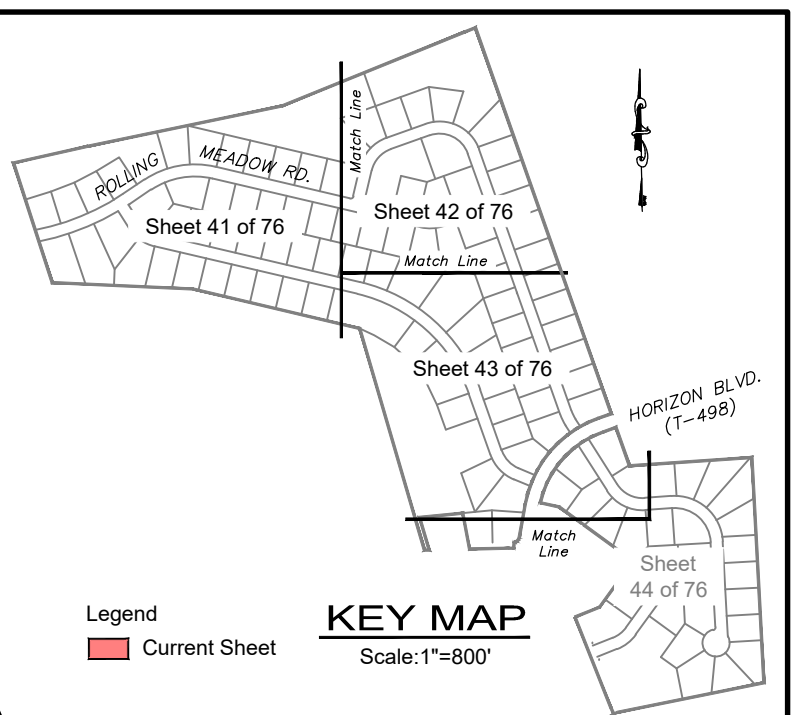


**WATER MAIN NOTES:**

1. CONTRACTOR SHALL USE BENDS AS NECESSARY TO ACHIEVE PROPOSED WATER MAIN LAYOUT.
2. PIPE DEFLECTION IS TO BE A MAXIMUM OF HALF OF THE MANUFACTURERS' RECOMMENDATION.
3. ALL 11.25° BENDS WERE USED IN THE DESIGN OF THE PROPOSED WATER MAIN. WHERE BENDS ARE NOT SHOWN, HALF OF THE MANUFACTURERS' RECOMMENDATION ON PIPE DEFLECTION SHALL BE USED.
4. CURB STOPS TO BE INSTALLED JUST INSIDE THE CURB LINE (WITHIN BEAUTY STRIP IF SIDEWALK IS PROPOSED) WITH THE METER PIT TO BE WITHIN 2'-8" OF THE CURB STOP (OPPOSITE SIDE OF SIDEWALK IF SIDEWALK IS PROPOSED).

**NOTES:**

1. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO PURCHASE AND INSTALL FIRE HYDRANT MARKERS FOR ALL NEWLY INSTALLED FIRE HYDRANTS.



REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**UTILITY PLAN**

PRELIMINARY SUBDIVISION

For

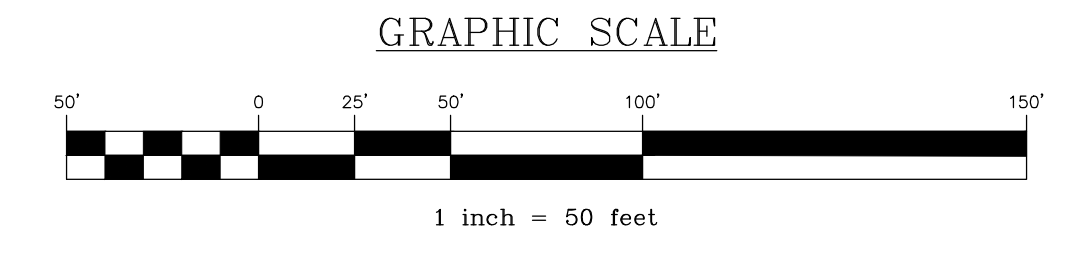
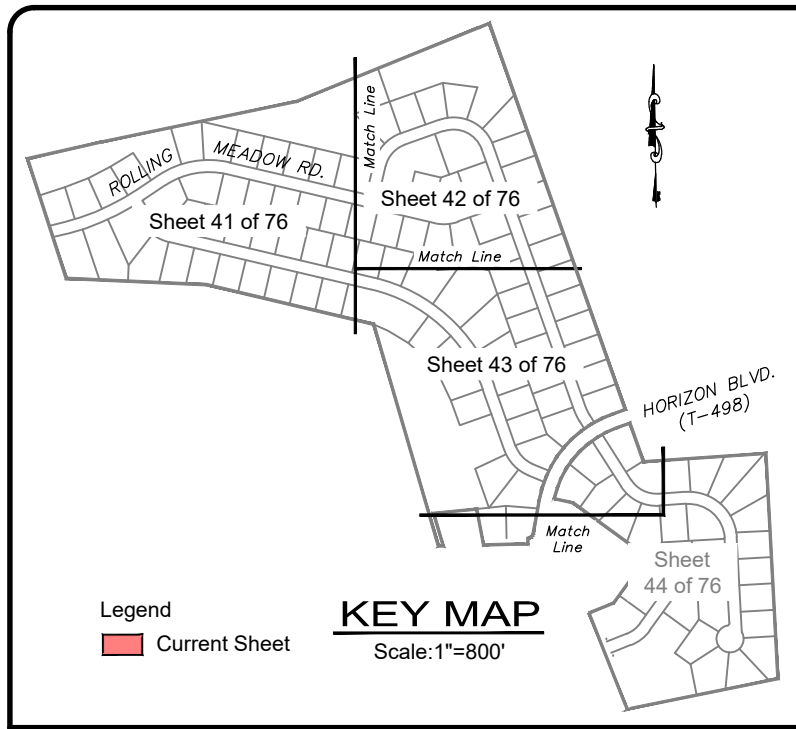
**THE ESTATES AT HEARTSIDE**

located in

NORTH LEBANON TOWNSHIP

LEBANON County, Pennsylvania

FIELD CREW: MOD,JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT #784-22-001



**LEGEND**

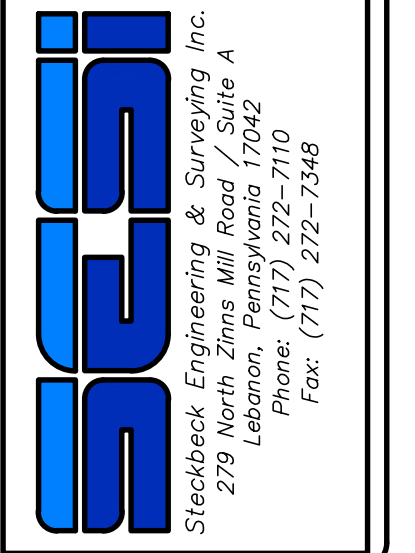
EXISTING FEATURES	
	EXISTING ADJOINER LINE
	EXISTING BOUNDARY LINE AND CORNERS
	EXISTING EDGE OF PAVEMENT AND CURB LINE
	EXISTING RIGHT-OF-WAY
	EXISTING FENCE
	EXISTING SEWER
	EXISTING STORMWATER
	EXISTING WATERLINE
	EXISTING GASLINE
	EXISTING SIDEWALK/CONCRETE
	EXISTING CONTOURS
	EXISTING TREELINE
	EXISTING TOWNSHIP BOUNDARY
	LIMITS OF FIELD SURVEY
	EXISTING SOILS
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
PROPOSED FEATURES	
	PROPOSED BUILDING SETBACK
	PROPOSED BOUNDARY LINE AND CORNERS
	PROPOSED EDGE OF PAVEMENT AND CURB LINE
	PROPOSED RIGHT-OF-WAY
	PROPOSED FENCE
	PROPOSED SEWER
	PROPOSED FORCE MAIN
	PROPOSED STORMWATER
	PROPOSED DOMESTIC WATERLINE
	PROPOSED GASLINE
	PROPOSED CONCRETE/SIDEWALK
	PROPOSED CONTOURS
	PROPOSED TREELINE
	PROPOSED UTILITY POLE
	PROPOSED LIGHT POLE
	PROPOSED WATER METER PIT

**NOTES:**  
1. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO PURCHASE AND INSTALL FIRE HYDRANT MARKERS FOR ALL NEWLY INSTALLED FIRE HYDRANTS.

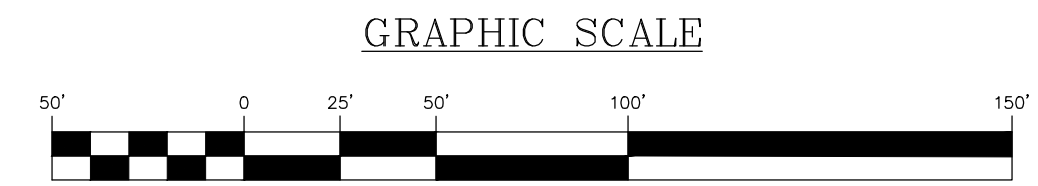
- WATER MAIN NOTES:**
1. CONTRACTOR SHALL USE BENDS AS NECESSARY TO ACHIEVE PROPOSED WATER MAIN LAYOUT.
  2. PIPE DEFLECTION IS TO BE A MAXIMUM OF HALF OF THE MANUFACTURERS' RECOMMENDATION.
  3. ALL 11.25' BENDS WERE USED IN THE DESIGN OF THE PROPOSED WATER MAIN. WHERE BENDS ARE NOT SHOWN, HALF OF THE MANUFACTURERS' RECOMMENDATION ON PIPE DEFLECTION SHALL BE USED.
  4. CURB STOPS TO BE INSTALLED JUST INSIDE THE CURB LINE (WITHIN BEAUTY STRIP IF SIDEWALK IS PROPOSED) WITH THE METER PIT TO BE WITHIN 2'-5" OF THE CURB STOP (OPPOSITE SIDE OF SIDEWALK IF SIDEWALK IS PROPOSED)

REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**UTILITY PLAN**  
PRELIMINARY SUBDIVISION  
For  
**THE ESTATES AT HEARTSIDE**  
located in  
NORTH LEBANON TOWNSHIP  
LEBANON County, Pennsylvania



FIELD CREW: MOD,JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT # 784-22-001

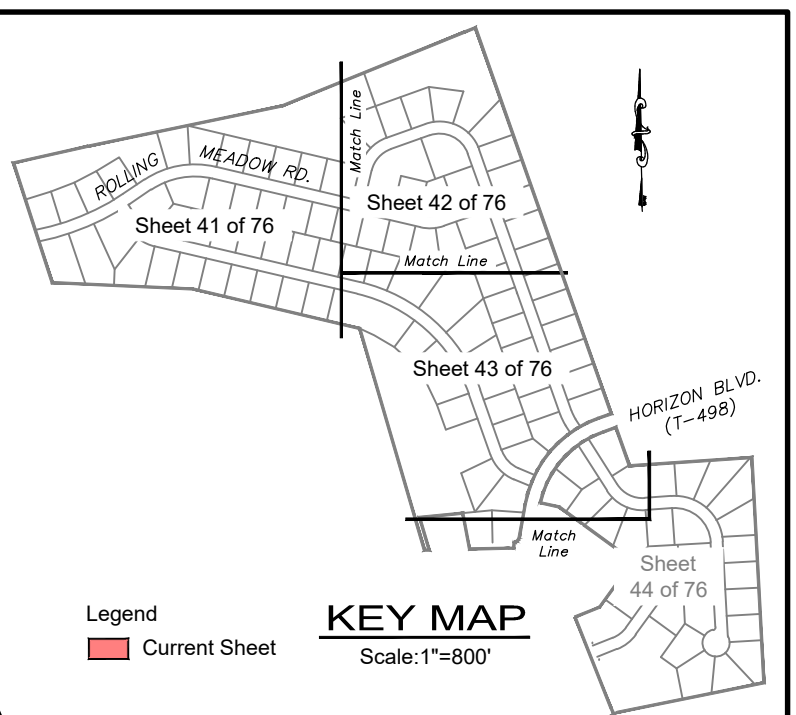


**LEGEND**

EXISTING FEATURES	
	EXISTING ADJOINER LINE
	EXISTING BOUNDARY LINE AND CORNERS
	EXISTING EDGE OF PAVEMENT AND CURB LINE
	EXISTING RIGHT-OF-WAY
	EXISTING FENCE
	EXISTING SEWER
	EXISTING STORMWATER
	EXISTING WATERLINE
	EXISTING GASLINE
	EXISTING SIDEWALK/CONCRETE
	EXISTING CONTOURS
	EXISTING TREELINE
	EXISTING TOWNSHIP BOUNDARY
	LIMITS OF FIELD SURVEY
	EXISTING SOILS
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
PROPOSED FEATURES	
	PROPOSED BUILDING SETBACK
	PROPOSED BOUNDARY LINE AND CORNERS
	PROPOSED EDGE OF PAVEMENT AND CURB LINE
	PROPOSED RIGHT-OF-WAY
	PROPOSED FENCE
	PROPOSED SEWER
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	PROPOSED STORMWATER
	PROPOSED DOMESTIC WATERLINE
	PROPOSED GASLINE
	PROPOSED CONCRETE/SIDEWALK
	PROPOSED CONTOURS
	PROPOSED TREELINE
	PROPOSED UTILITY POLE
	PROPOSED LIGHT POLE
	PROPOSED WATER METER PIT

- WATER MAIN NOTES:**
- CONTRACTOR SHALL USE BENDS AS NECESSARY TO ACHIEVE PROPOSED WATER MAIN LAYOUT.
  - PIPE DEFLECTION IS TO BE A MAXIMUM OF HALF OF THE MANUFACTURERS' RECOMMENDATION.
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  - CURB STOPS TO BE INSTALLED JUST INSIDE THE CURB LINE (WITHIN BEAUTY STRIP IF SIDEWALK IS PROPOSED) WITH THE METER PIT TO BE WITHIN 2'-8" OF THE CURB STOP. (OPPOSITE SIDE OF SIDEWALK IF SIDEWALK IS PROPOSED)

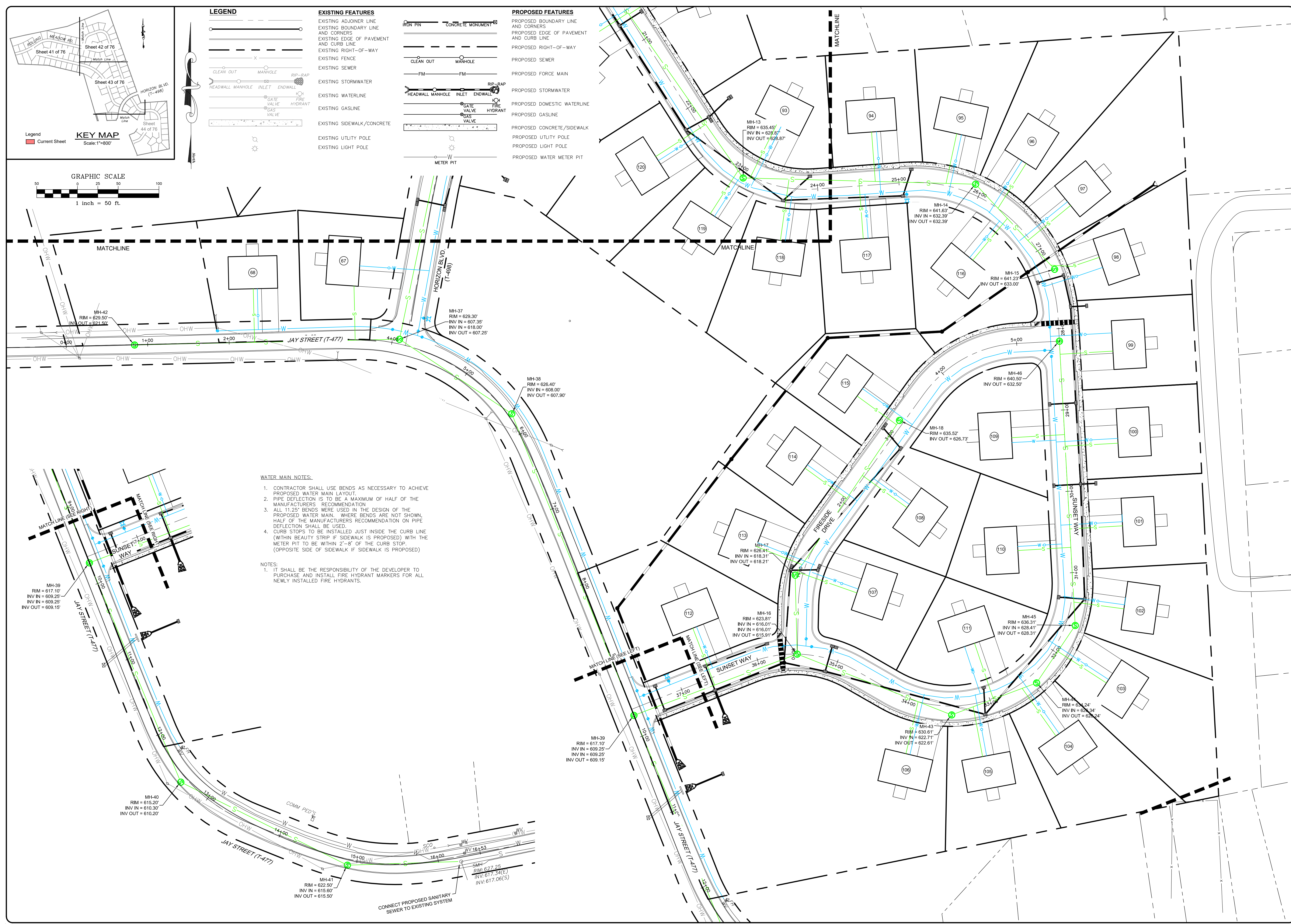
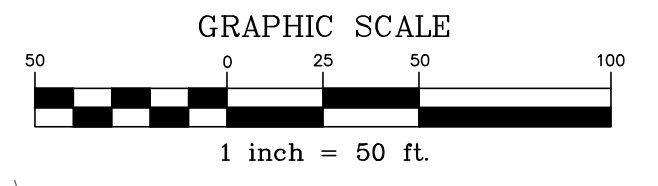
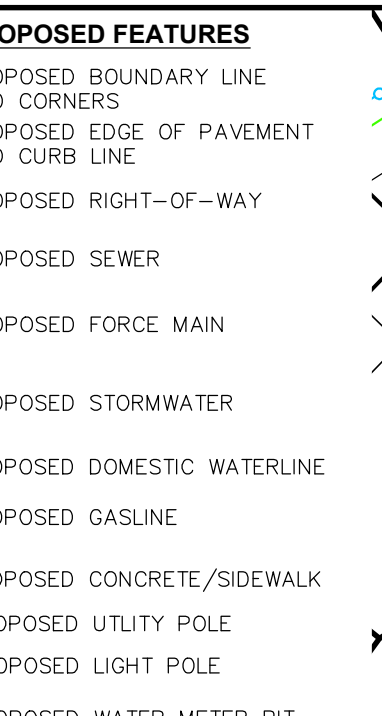
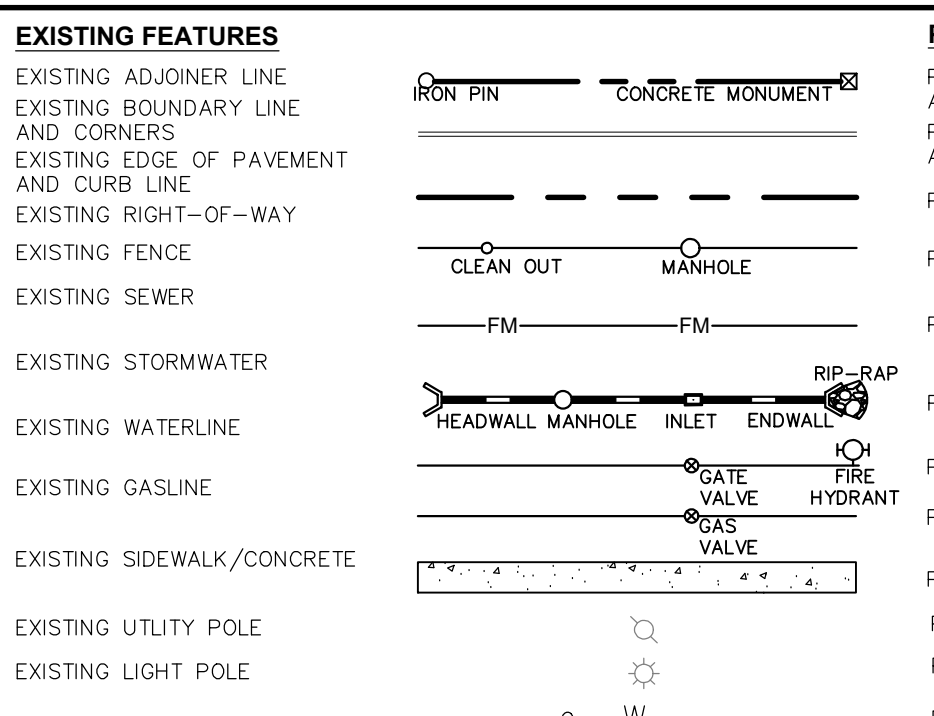
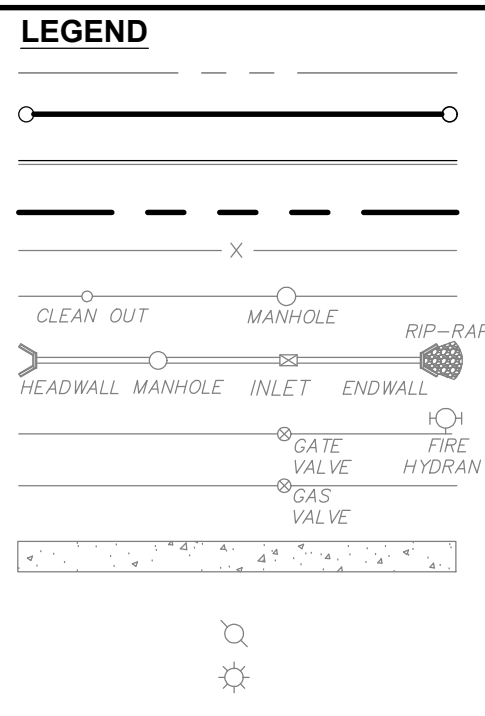
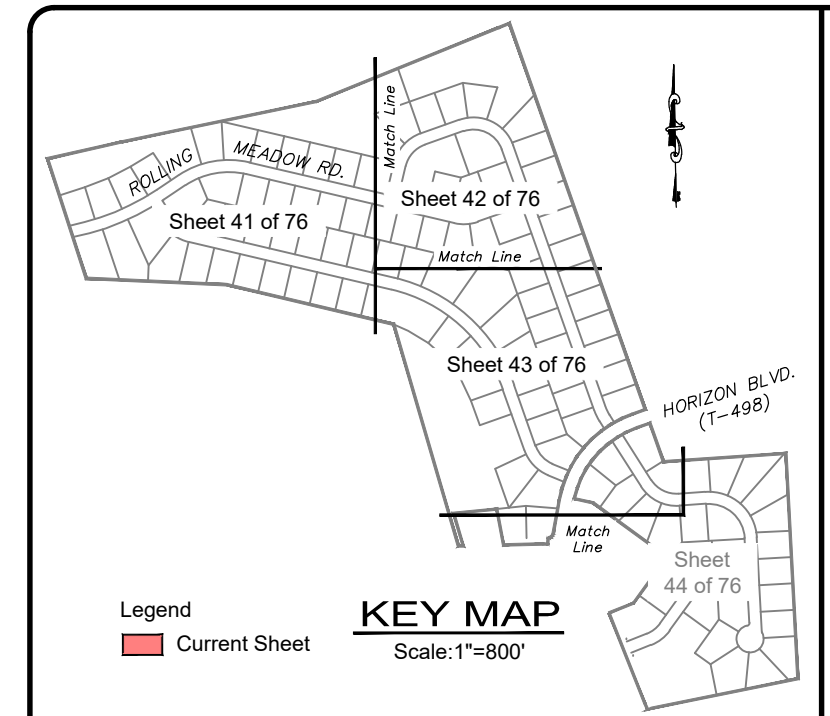
- NOTES:**
- IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO PURCHASE AND INSTALL FIRE HYDRANT MARKERS FOR ALL NEWLY INSTALLED FIRE HYDRANTS.



REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**UTILITY PLAN**  
 PRELIMINARY SUBDIVISION  
 For  
**THE ESTATES AT HEARTSIDE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

FIELD CREW:	MOD, JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=50'
PROJECT #	#784-22-001



**WATER MAIN NOTES:**

- CONTRACTOR SHALL USE BENDS AS NECESSARY TO ACHIEVE PROPOSED WATER MAIN LAYOUT.
- PIPE DEFLECTION IS TO BE A MAXIMUM OF HALF OF THE MANUFACTURER'S RECOMMENDATION.
- ALL 11.25° BENDS WERE USED IN THE DESIGN OF THE PROPOSED WATER MAIN. WHERE BENDS ARE NOT SHOWN, HALF OF THE MANUFACTURER'S RECOMMENDATION ON PIPE DEFLECTION SHALL BE USED.
- CURB STOPS TO BE INSTALLED JUST INSIDE THE CURB LINE (WITHIN BEAUTY STRIP IF SIDEWALK IS PROPOSED) WITH THE METER PIT TO BE WITHIN 2'-8" OF THE CURB STOP. (OPPOSITE SIDE OF SIDEWALK IF SIDEWALK IS PROPOSED)

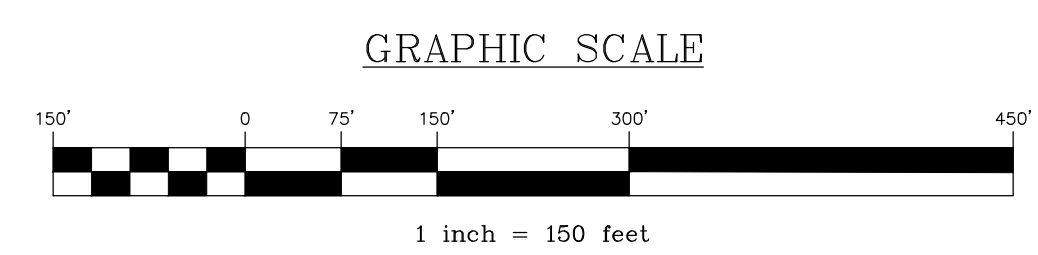
**NOTES:**

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REVISION	DATE	BY
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REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**UTILITY PLAN**  
 PRELIMINARY SUBDIVISION  
 For  
**THE ESTATES AT HEARTSIDE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

FIELD CREW:	MOD, JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=50'
PROJECT #	784-22-001



**LEGEND**

	<b>EXISTING FEATURES</b>
	EXISTING ADJOINER LINE
	EXISTING BOUNDARY LINE AND CORNERS
	EXISTING EDGE OF PAVEMENT AND CURB LINE
	EXISTING RIGHT-OF-WAY
	EXISTING FENCE
	EXISTING SEWER
	EXISTING STORMWATER
	EXISTING WATERLINE
	EXISTING GASLINE
	EXISTING SIDEWALK/CONCRETE
	EXISTING CONTOURS
	EXISTING TREELINE
	EXISTING TOWNSHIP BOUNDARY
	LIMITS OF FIELD SURVEY
	EXISTING SOILS
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	<b>PROPOSED FEATURES</b>
	PROPOSED BUILDING SETBACK
	PROPOSED BOUNDARY LINE AND CORNERS
	PROPOSED EDGE OF PAVEMENT AND CURB LINE
	PROPOSED RIGHT-OF-WAY
	PROPOSED FENCE
	PROPOSED SEWER
	PROPOSED STORMWATER
	PROPOSED DOMESTIC WATERLINE
	PROPOSED GASLINE
	PROPOSED CONCRETE/SIDEWALK
	PROPOSED CONTOURS
	PROPOSED TREELINE
	PROPOSED UTILITY POLE
	PROPOSED LIGHT POLE

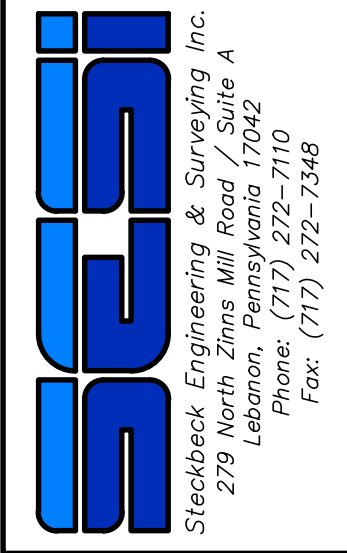
- NOTES:**
- NO VISION OBSTRUCTING OBJECTS SHALL BE PERMITTED WHICH OBSCURE VISION ABOVE THE HEIGHT OF 30' AND BELOW 10' TO THE SIGHT DISTANCE.
  - A MINIMUM OF 15% OF EACH LOT PROPOSED IS PROVIDED WITH GROUND COVER (LANDSCAPING) AS REQUIRED BY ORDINANCE.
  - IF ANY OF THE PLANTINGS DIE OR ARE CUT DOWN, REPLACEMENT OF PLANTINGS SHALL BE REQUIRED AND SHALL BE OF COMPARABLE SIZE AND TYPE WITHIN 18 MONTHS OF PROJECT COMPLETION.

- LANDSCAPING LONG-TERM MAINTENANCE NOTES:**
- A QUALIFIED LANDSCAPE CONTRACTOR KNOWLEDGEABLE IN PRUNING TECHNIQUES, FERTILIZER APPLICATION, PEST CONTROL, AND LAWN CARE SHALL PERFORM ANNUAL LANDSCAPE MAINTENANCE.
  - THE INDIVIDUAL LOT OWNERS SHALL BE RESPONSIBLE FOR REGULAR MOWING OF ALL PRIVATE LAWN AREAS.
  - ANY PLANT MATERIAL SHOWN ON THE APPROVED LANDSCAPE PLAN THAT DOES NOT SURVIVE OR IS DAMAGED SHALL BE REPLACED IN KIND BY THE OWNER WITHIN A SIX-MONTH PERIOD.

- GENERAL LANDSCAPE NOTES (BY LANDSCAPE CONTRACTOR)**
- THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL UTILITIES AND SHALL ASSUME RESPONSIBILITY FOR DAMAGE TO UTILITIES AND PROPERTY AS A RESULT OF HIS WORK.
  - ALL PLANT MATERIAL IS TO BE GUARANTEED FOR A PERIOD OF EIGHTEEN (18) MONTHS FROM THE DATE OF INSTALLATION AND ACCEPTANCE BY OWNER.
  - PLANT MATERIAL SHALL BE TRUE TO SPECIES AND VARIETY AND SHALL CONFORM TO MEASUREMENTS AND MINIMUM STANDARDS AS SET FORTH IN THE PLANT SCHEDULE.
  - ALL PLANTING BEDS ARE TO BE MULCHED WITH A MINIMUM OF 3" OF SHREDDED AGED HARDWOOD BARK MULCH.
  - THE CONTRACTOR IS TO PROVIDE ADDITIONAL TOPSOIL AS NEEDED FOR PLANTING OPERATIONS.
  - ALL TREES ARE TO BE STAKED AND GUYED ACCORDING TO THE PLANTING DETAILS AND ACCEPTED PROFESSIONAL NURSERYMAN'S STANDARDS. TREES WITH LESS THAN A 3" CALIPER SHALL BE PROPERLY STAKED AND MORE THAN A 3" CALIPER PROPERLY GUYED. ALL PLANTING DETAILS ARE LOCATED ON THE LANDSCAPING PLAN (SHEETS 12 & 13). ALL STREET TREES MUST BE A MINIMUM OF 2.50 INCHES IN DIAMETER.
  - THE CONTRACTOR SHALL REMOVE WIRE BASKETS AND NYLON BURLAP OR ROPE FROM THE ROOT BALL OF ALL PLANT MATERIAL.
  - APPLY A 50/50 MIX OF CHIPCO RONSTAR 6 AND PENNANT 56 TO SOIL SURFACE IN MULCHED AREAS PRIOR TO MULCHING. APPLY AT A RATE OF 7 POUNDS PER 1000 SF.
  - PLACE "WEED BLOCK" WATER PERMEABLE FILTRATION FABRIC UNDER MULCHED AREAS EXCEPT FOR AREAS OF GROUND COVER (I.E. IVY AND VINCA) AND PERENNIAL BEDS.
  - LANDSCAPE CONTRACTOR SHALL COORDINATE HIS/HER WORK WITH ALL OTHER CONTRACTORS ON SITE.
  - ALL AREAS OTHER THAN PLANTING BED AREAS SHALL BE CONSIDERED LAWN AREAS.
  - THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO CLEAN AND REMOVE/DISPOSE FROM THE SITE ALL DEBRIS THAT IS A PART OF THE LANDSCAPE CONTRACTOR'S OPERATION.
  - THE CONTRACTOR SHALL INSTALL ORANGE PLASTIC CONSTRUCTION FENCE AROUND EXISTING MATURE TREES TO PREVENT ROOT ZONE COMPACTION AND DAMAGE TO TRUNKS AND BRANCHES. THE FENCING SHALL BE INSTALLED TO PREVENT DAMAGE AT A MINIMUM OF 2/3 OF THE DIAMETER OF THE TREE CANOPY.

PROPOSED STREET TREE PLANT SCHEDULE					
KEY	BOT. NAME	COMMON NAME	SIZE	CONDITION	
AT	ACER TRUNCATUM	PACIFIC SUNSET MAPLE	2.5"-3" CAL	B&B	
UF	ULMUS 'FRONTIER'	FRONTIER HYBRID ELM	2.5"-3" CAL	B&B	
EB	CERCIS CANADENSIS	EASTERN REDBUD	20'-30'	B&B	
AC	ACER CAMPESTRE	HEDGE MAPLE	2.5"-3" CAL	B&B	
CK	CORNUS KOUSA	KOUSA DOGWOOD	2.5"-3" CAL	B&B	
CS	CARPINUS BETULUS	EUROPEAN HORNBEAM	2.5"-3" CAL	B&B	

**OVERALL LANDSCAPING PLAN**  
 PRELIMINARY SUBDIVISION  
 AND LAND DEVELOPMENT PLANS  
 For  
**THE ESTATES AT HEARTSIDE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania



FIELD CREW:	MOD, JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=150'
PROJECT #	#784-22-001

**LEGEND**

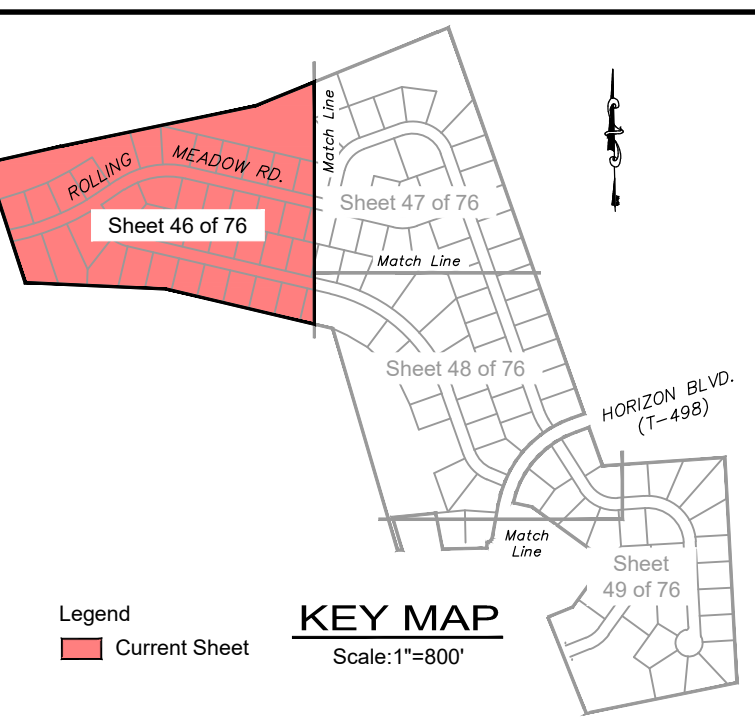
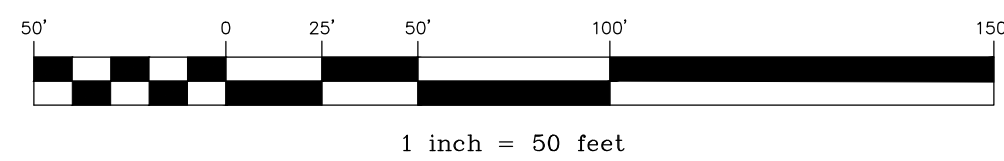
EXISTING FEATURES	
	EXISTING ADJOINER LINE AND CORNERS
	EXISTING BOUNDARY LINE AND CORNERS
	EXISTING EDGE OF PAVEMENT AND CURB LINE
	EXISTING RIGHT-OF-WAY
	EXISTING FENCE
	EXISTING SEWER
	EXISTING STORMWATER
	EXISTING WATERLINE
	EXISTING GASLINE
	EXISTING SIDEWALK/CONCRETE
	EXISTING CONTOURS
	EXISTING TREELINE
	EXISTING TOWNSHIP BOUNDARY
	LIMITS OF FIELD SURVEY
	EXISTING SOILS
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE

PROPOSED FEATURES	
	PROPOSED BUILDING SETBACK
	PROPOSED BOUNDARY LINE AND CORNERS
	PROPOSED EDGE OF PAVEMENT AND CURB LINE
	PROPOSED RIGHT-OF-WAY
	PROPOSED FENCE
	PROPOSED SEWER
	PROPOSED STORMWATER
	PROPOSED DOMESTIC WATERLINE
	PROPOSED GASLINE
	PROPOSED CONCRETE/SIDEWALK

	MAJOR	PROPOSED CONTOURS
	MINOR	
		PROPOSED TREELINE
		PROPOSED UTILITY POLE
		PROPOSED LIGHT POLE

NOTES:  
 1. NO VISION OBSTRUCTING OBJECTS SHALL BE PERMITTED WHICH OBSCURE VISION ABOVE THE HEIGHT OF 30' AND BELOW 10' TO THE SIGHT DISTANCE.  
 2. A MINIMUM OF 15% OF EACH LOT PROPOSED IS PROVIDED WITH GROUND COVER (LANDSCAPING) AS REQUIRED BY ORDINANCE. IF ANY OF THE PLANTINGS DIE OR ARE CUT DOWN, REPLACEMENT OF PLANTINGS SHALL BE REQUIRED AND SHALL BE OF COMPARABLE SIZE AND TYPE WITHIN 18 MONTHS OF PROJECT COMPLETION.

**GRAPHIC SCALE**



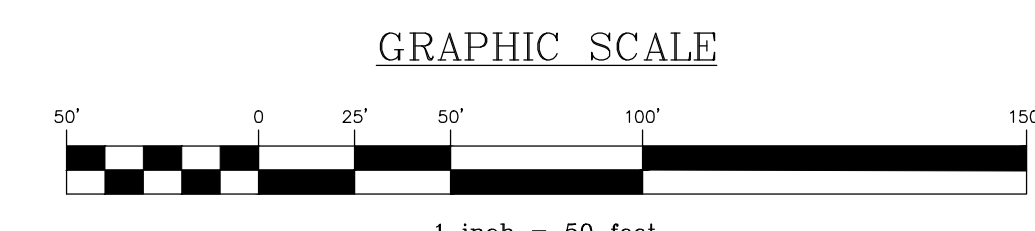
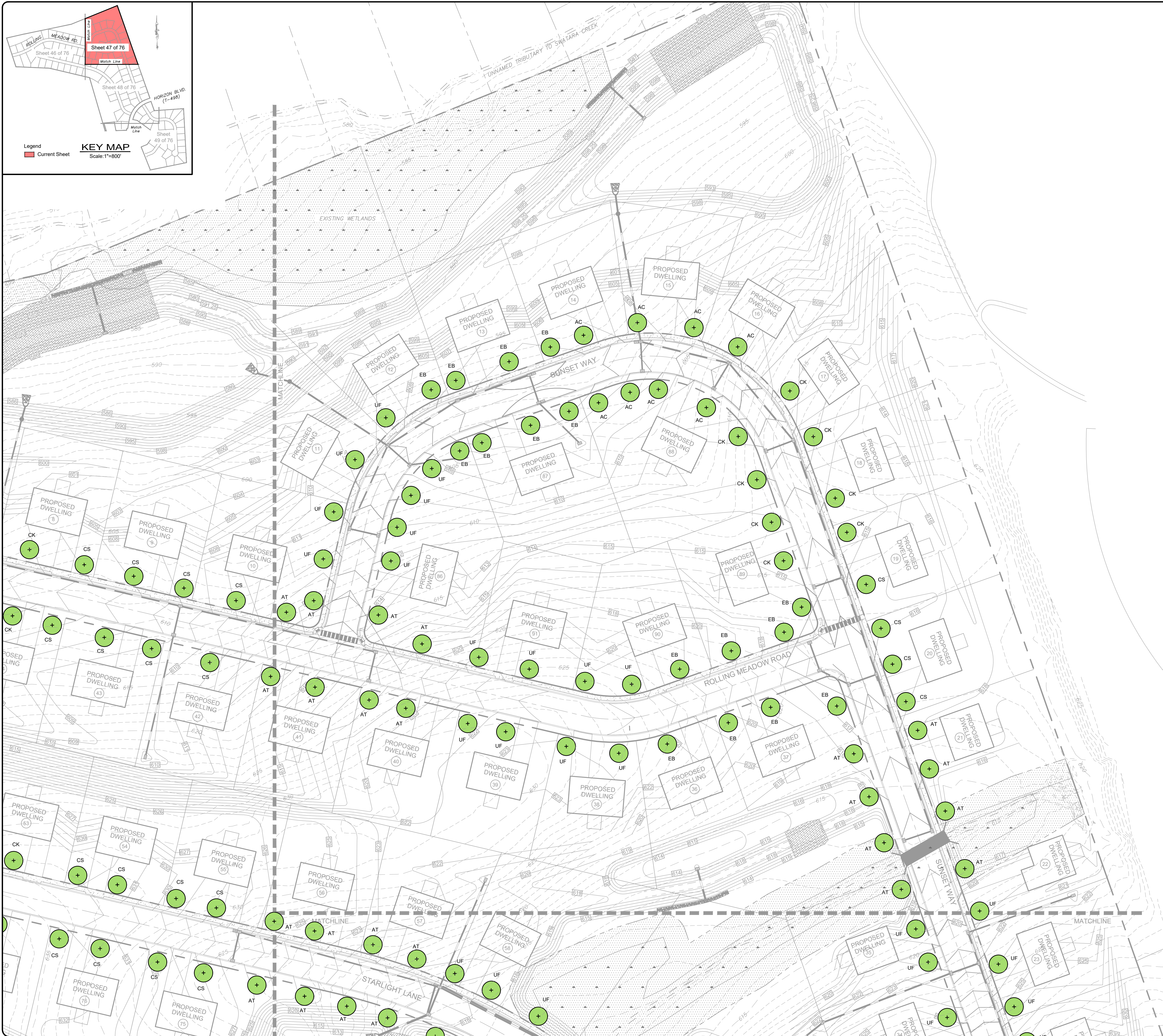
REVISION	DATE	BY
REVISED PER ARGO LETTER DATED 12/12/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**LANDSCAPING PLAN**  
 PRELIMINARY SUBDIVISION  
 For  
**THE ESTATES AT HEARTSIDE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

FIELD CREW: MOD, JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT # 784-22-001

**KEY MAP**  
Scale: 1"=800'

Legend  
Current Sheet



**LEGEND**

	<b>EXISTING FEATURES</b>
	EXISTING ADDJOINER LINE
	EXISTING BOUNDARY LINE AND CORNERS
	EXISTING EDGE OF PAVEMENT AND CURB LINE
	EXISTING RIGHT-OF-WAY
	EXISTING FENCE
	EXISTING SEWER
	EXISTING STORMWATER
	EXISTING WATERLINE
	EXISTING GASLINE
	EXISTING SIDEWALK/CONCRETE
	EXISTING CONTOURS
	EXISTING TREELINE
	EXISTING TOWNSHIP BOUNDARY
	LIMITS OF FIELD SURVEY
	EXISTING SOILS
	EXISTING UTILITY POLE
	<b>PROPOSED FEATURES</b>
	PROPOSED BUILDING SETBACK
	PROPOSED BOUNDARY LINE AND CORNERS
	PROPOSED EDGE OF PAVEMENT AND CURB LINE
	PROPOSED RIGHT-OF-WAY
	PROPOSED FENCE
	PROPOSED SEWER
	PROPOSED STORMWATER
	PROPOSED DOMESTIC WATERLINE
	PROPOSED EDGE OF PAVEMENT AND CURB LINE
	PROPOSED GASLINE
	PROPOSED CONCRETE/SIDEWALK
	PROPOSED CONTOURS
	PROPOSED TREELINE
	PROPOSED UTILITY POLE
	PROPOSED LIGHT POLE

**NOTES:**

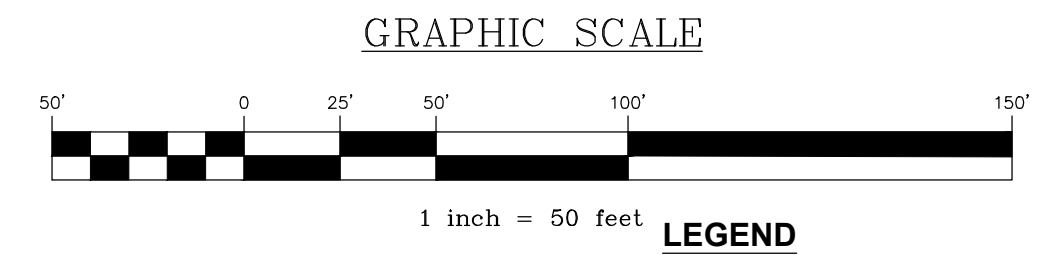
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REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**LANDSCAPING PLAN**  
PRELIMINARY SUBDIVISION  
For  
**THE ESTATES AT HEARTHSTONE**  
located in  
NORTH LEBANON TOWNSHIP  
LEBANON County, Pennsylvania

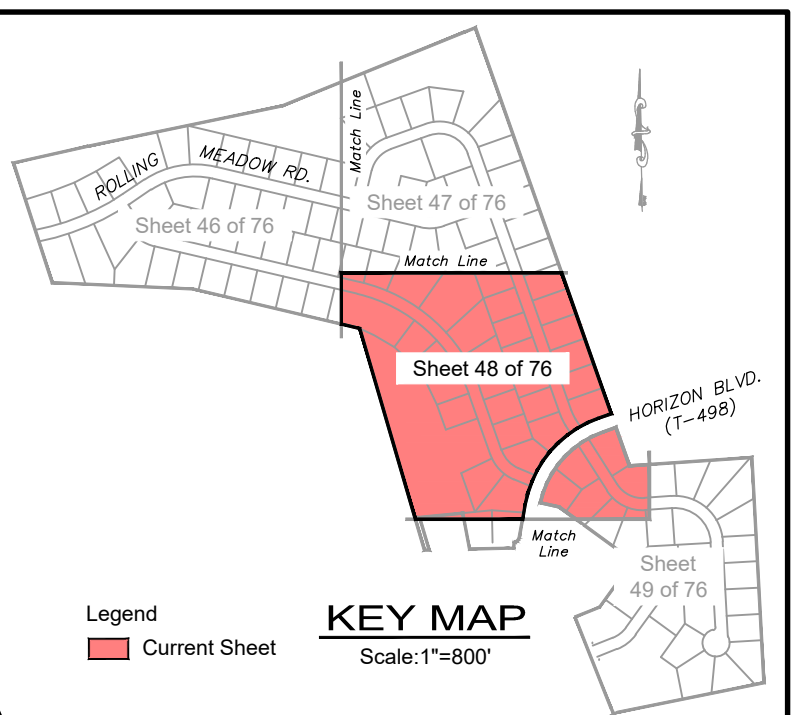
**CSI**  
Engineering & Surveying, Inc.  
279 Lebanon, Pennsylvania 17042  
Phone: (717) 272-7110  
Fax: (717) 272-7348

FIELD CREW: MOD, JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT #784-22-001



LEGEND		EXISTING FEATURES
	EXISTING ADJOINER LINE	EXISTING ADJOINER LINE
	EXISTING BOUNDARY LINE AND CORNERS	EXISTING BOUNDARY LINE AND CORNERS
	EXISTING EDGE OF PAVEMENT AND CURB LINE	EXISTING EDGE OF PAVEMENT AND CURB LINE
	EXISTING RIGHT-OF-WAY	EXISTING RIGHT-OF-WAY
	EXISTING FENCE	EXISTING FENCE
	EXISTING SEWER	EXISTING SEWER
	EXISTING STORMWATER	EXISTING STORMWATER
	EXISTING WATERLINE	EXISTING WATERLINE
	EXISTING GASLINE	EXISTING GASLINE
	EXISTING SIDEWALK/CONCRETE	EXISTING SIDEWALK/CONCRETE
	EXISTING CONTOURS	EXISTING CONTOURS
	EXISTING TREELINE	EXISTING TREELINE
	EXISTING TOWNSHIP BOUNDARY	EXISTING TOWNSHIP BOUNDARY
	LIMITS OF FIELD SURVEY	LIMITS OF FIELD SURVEY
	EXISTING SOILS	EXISTING SOILS
	EXISTING UTILITY POLE	EXISTING UTILITY POLE
	EXISTING LIGHT POLE	EXISTING LIGHT POLE
PROPOSED FEATURES		PROPOSED FEATURES
	PROPOSED BUILDING SETBACK	PROPOSED BUILDING SETBACK
	PROPOSED BOUNDARY LINE AND CORNERS	PROPOSED BOUNDARY LINE AND CORNERS
	PROPOSED EDGE OF PAVEMENT AND CURB LINE	PROPOSED EDGE OF PAVEMENT AND CURB LINE
	PROPOSED RIGHT-OF-WAY	PROPOSED RIGHT-OF-WAY
	PROPOSED FENCE	PROPOSED FENCE
	PROPOSED SEWER	PROPOSED SEWER
	PROPOSED STORMWATER	PROPOSED STORMWATER
	PROPOSED DOMESTIC WATERLINE	PROPOSED DOMESTIC WATERLINE
	PROPOSED GASLINE	PROPOSED GASLINE
	PROPOSED CONCRETE/SIDEWALK	PROPOSED CONCRETE/SIDEWALK
	PROPOSED CONTOURS	PROPOSED CONTOURS
	PROPOSED TREELINE	PROPOSED TREELINE
	PROPOSED UTILITY POLE	PROPOSED UTILITY POLE
	PROPOSED LIGHT POLE	PROPOSED LIGHT POLE

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REVISION	BY	DATE
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REVISED PER LCPD LETTER DATED 12/15/22	CDS	3/09/23
REVISED PER DEP/LCDD LETTER DATED 5/17/23	CDS/EJG	7/13/23

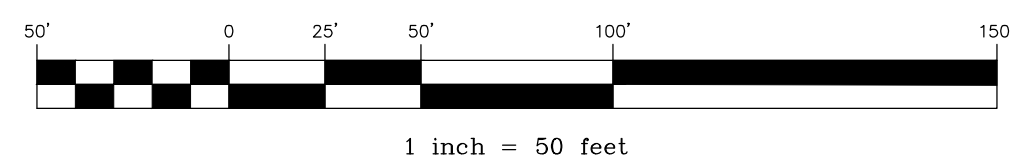
**LANDSCAPING PLAN**  
 PRELIMINARY SUBDIVISION  
 THE ESTATES AT HEARTSIDE  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

FIELD CREW: MOD,JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT # 784-22-001





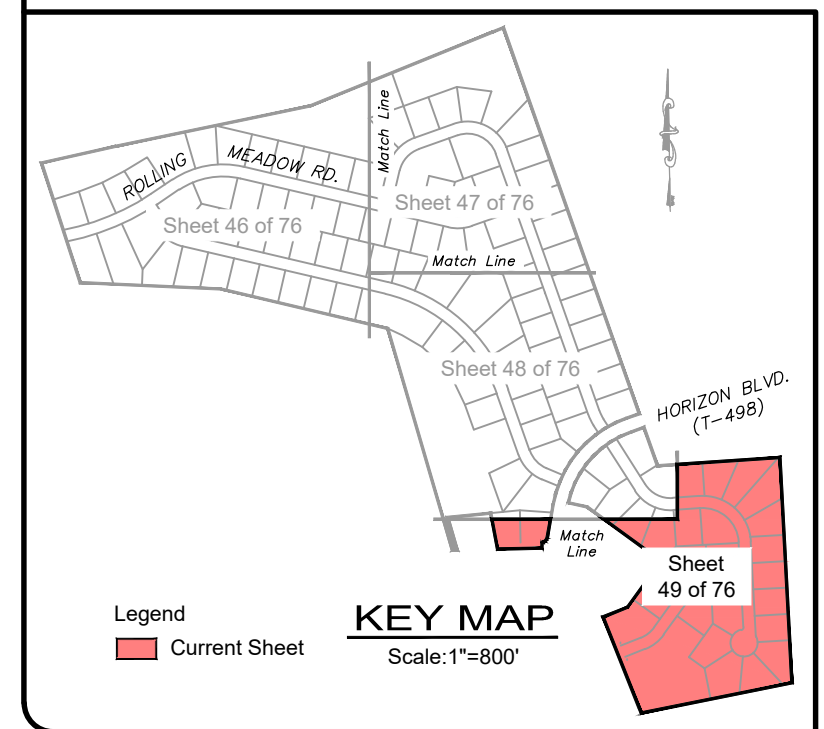
**GRAPHIC SCALE**



**LEGEND**

EXISTING FEATURES		PROPOSED FEATURES	
	EXISTING ADJOINER LINE		PROPOSED BUILDING SETBACK
	EXISTING BOUNDARY LINE AND CORNERS		PROPOSED BOUNDARY LINE AND CORNERS
	EXISTING EDGE OF PAVEMENT AND CURB LINE		PROPOSED EDGE OF PAVEMENT AND CURB LINE
	EXISTING RIGHT-OF-WAY		PROPOSED RIGHT-OF-WAY
	EXISTING FENCE		PROPOSED FENCE
	EXISTING SEWER		PROPOSED SEWER
	EXISTING STORMWATER		PROPOSED STORMWATER
	EXISTING WATERLINE		PROPOSED DOMESTIC WATERLINE
	EXISTING GASLINE		PROPOSED GASLINE
	EXISTING SIDEWALK/CONCRETE		PROPOSED CONCRETE/SIDEWALK
	EXISTING CONTOURS		PROPOSED CONTOURS
	EXISTING TREELINE		PROPOSED TREELINE
	EXISTING TOWNSHIP BOUNDARY		PROPOSED UTILITY POLE
	LIMITS OF FIELD SURVEY		PROPOSED LIGHT POLE
	EXISTING SOILS		
	EXISTING UTILITY POLE		
	EXISTING LIGHT POLE		

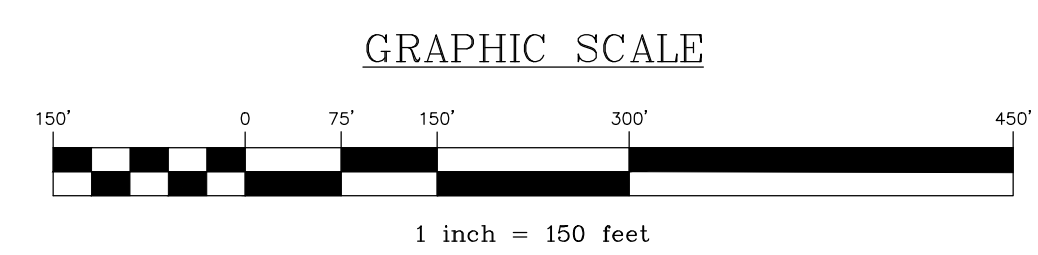
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REVISION	DATE	BY
REVISED PER ARGO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**LANDSCAPING PLAN**  
 PRELIMINARY SUBDIVISION  
 THE ESTATES AT HEARTSIDE  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

FIELD CREW:	MOD,JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=50'
PROJECT #	#784-22-001



**LEGEND**

	<b>EXISTING FEATURES</b>
	EXISTING ADJOINER LINE
	EXISTING BOUNDARY LINE AND CORNERS
	EXISTING EDGE OF PAVEMENT AND CURB LINE
	EXISTING RIGHT-OF-WAY
	EXISTING FENCE
	EXISTING SEWER
	EXISTING STORMWATER
	EXISTING WATERLINE
	EXISTING GASLINE
	EXISTING SIDEWALK/CONCRETE
	EXISTING CONTOURS
	EXISTING TREELINE
	EXISTING TOWNSHIP BOUNDARY
	LIMITS OF FIELD SURVEY
	EXISTING SOILS
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	<b>PROPOSED FEATURES</b>
	PROPOSED BUILDING SETBACK
	PROPOSED BOUNDARY LINE AND CORNERS
	PROPOSED EDGE OF PAVEMENT AND CURB LINE
	PROPOSED RIGHT-OF-WAY
	PROPOSED FENCE
	PROPOSED SEWER
	PROPOSED STORMWATER
	PROPOSED DOMESTIC WATERLINE
	PROPOSED GASLINE
	PROPOSED CONCRETE/SIDEWALK
	PROPOSED CONTOURS
	PROPOSED TREELINE
	PROPOSED UTILITY POLE
	PROPOSED LIGHT POLE

- NOTES:
1. CONTRACTOR SHALL BE RESPONSIBLE FOR \$2,000 FOR EACH STREETLIGHT, MET-ED TO INVOICE THE TOWNSHIP AND THE TOWNSHIP SHALL PASS THE INVOICE TO THE DEVELOPER.
  2. THE APPLICANT SHALL WORK WITH THE TOWNSHIP STAFF TO PROVIDE A WAY TO AVOID ACCESS TO THE BREAKER OF THE STREET LIGHTS. A LOCK BOX OR SOME TYPE OF ANTI-ACCESS DEVICE SHALL BE INSTALLED TO THE SATISFACTION OF THE TOWNSHIP MAINTENANCE DEPARTMENT.

BY	CDS
DATE	3/09/23
REVISION	
REVISED PER ARRO LETTER DATED 12/2/22	CDS
REVISED PER LCPD LETTER DATED 12/15/22	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	CDS/EJG

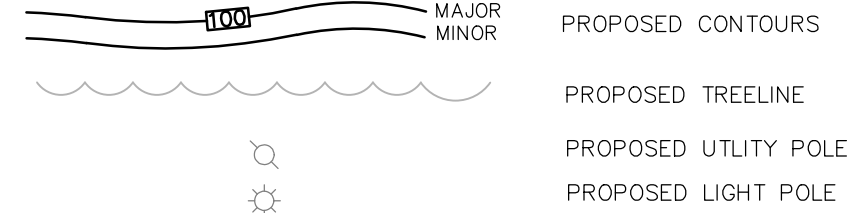
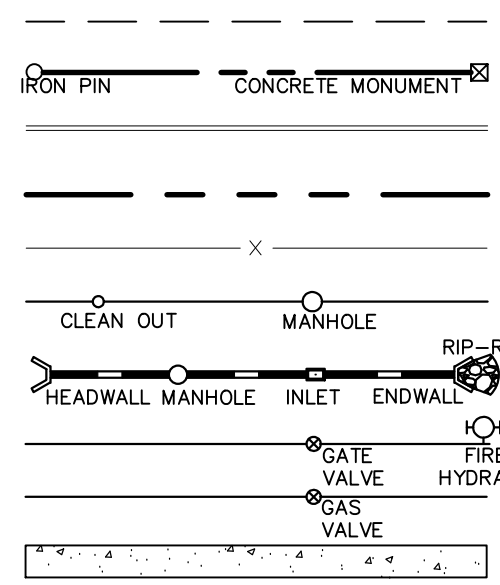
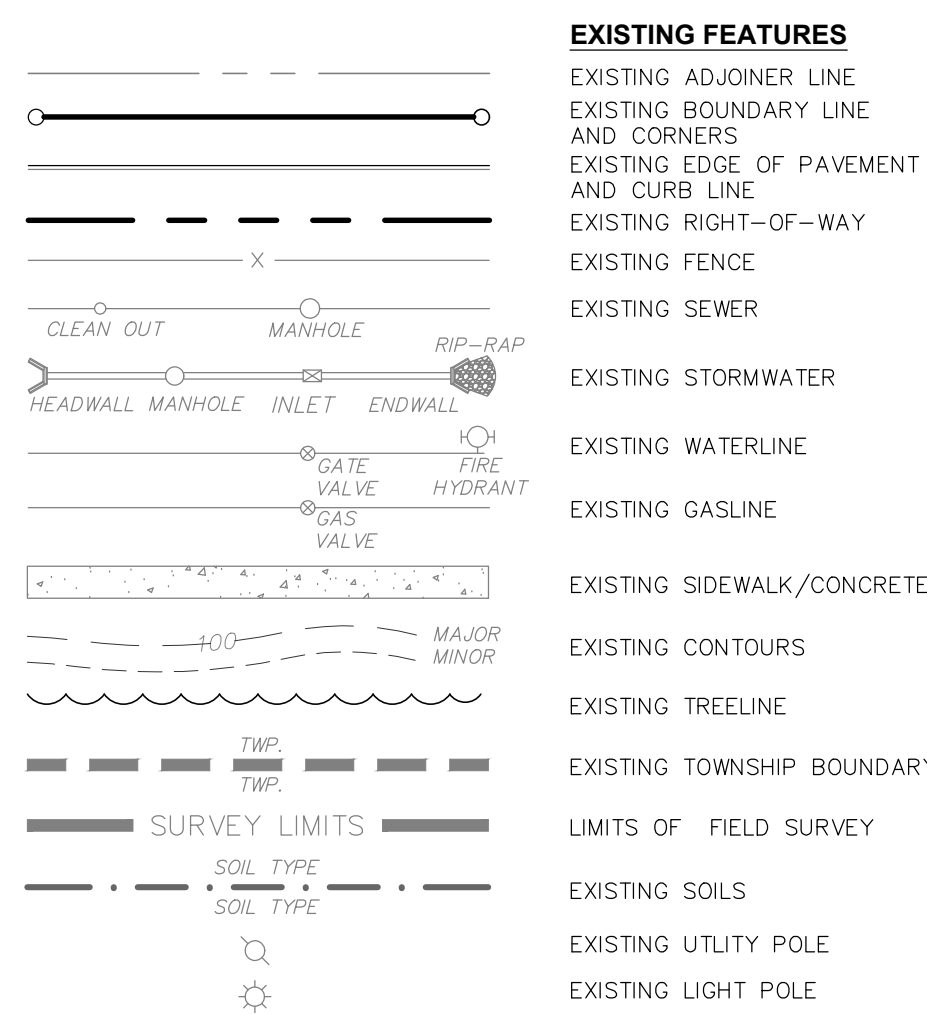
OVERALL LIGHTING PLAN
PRELIMINARY SUBDIVISION
AND LAND DEVELOPMENT PLANS
For
THE ESTATES AT HEARTSIDE
located in
NORTH LEBANON TOWNSHIP
LEBANON County, Pennsylvania

FIELD CREW:	MOD,JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=150'
PROJECT #	#784-22-001

50

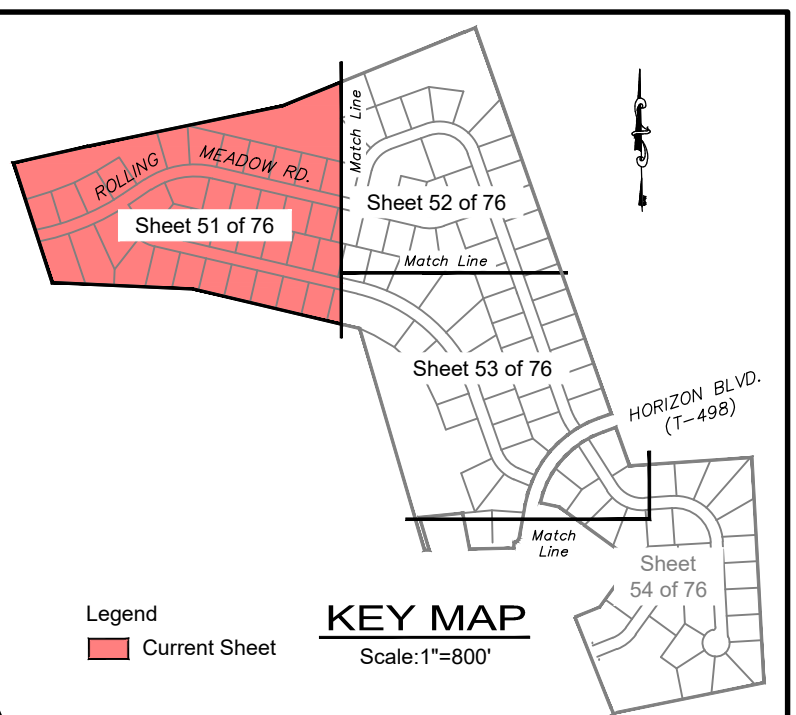
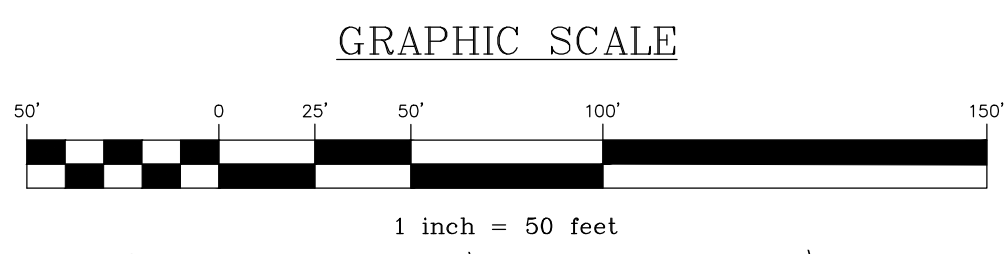
50 OF 76 SHEETS

**LEGEND**



**NOTES:**

- CONTRACTOR SHALL BE RESPONSIBLE FOR \$2,000 FOR EACH STREETLIGHT, MET-ED TO INVOICE THE TOWNSHIP AND THE TOWNSHIP SHALL PASS THE INVOICE TO THE DEVELOPER. THE APPLICANT SHALL WORK WITH THE TOWNSHIP STAFF TO PROVIDE A WAY TO AVOID ACCESS TO THE BREAKER OF THE STREET LIGHTS. A LOCK BOX OR SOME TYPE OF ANTI-ACCESS DEVICE SHALL BE INSTALLED TO THE SATISFACTION OF THE TOWNSHIP MAINTENANCE DEPARTMENT.



REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

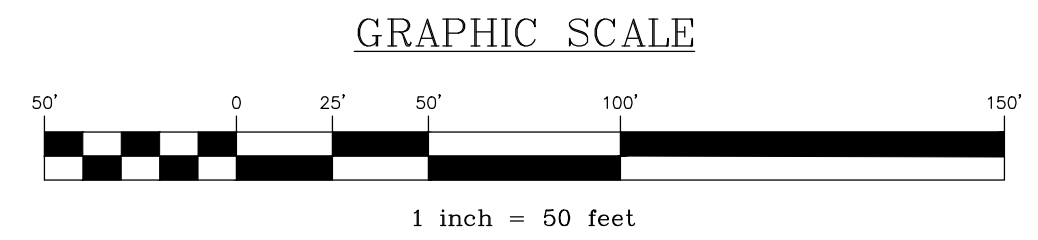
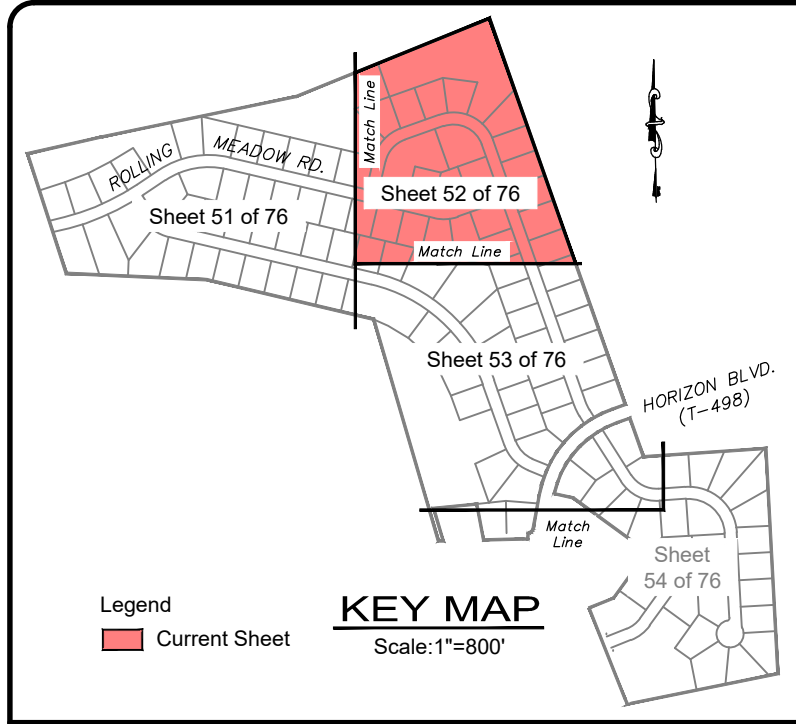
**LIGHTING PLAN**

PRELIMINARY SUBDIVISION  
 For  
**THE ESTATES AT HEARTSIDE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

**WES**

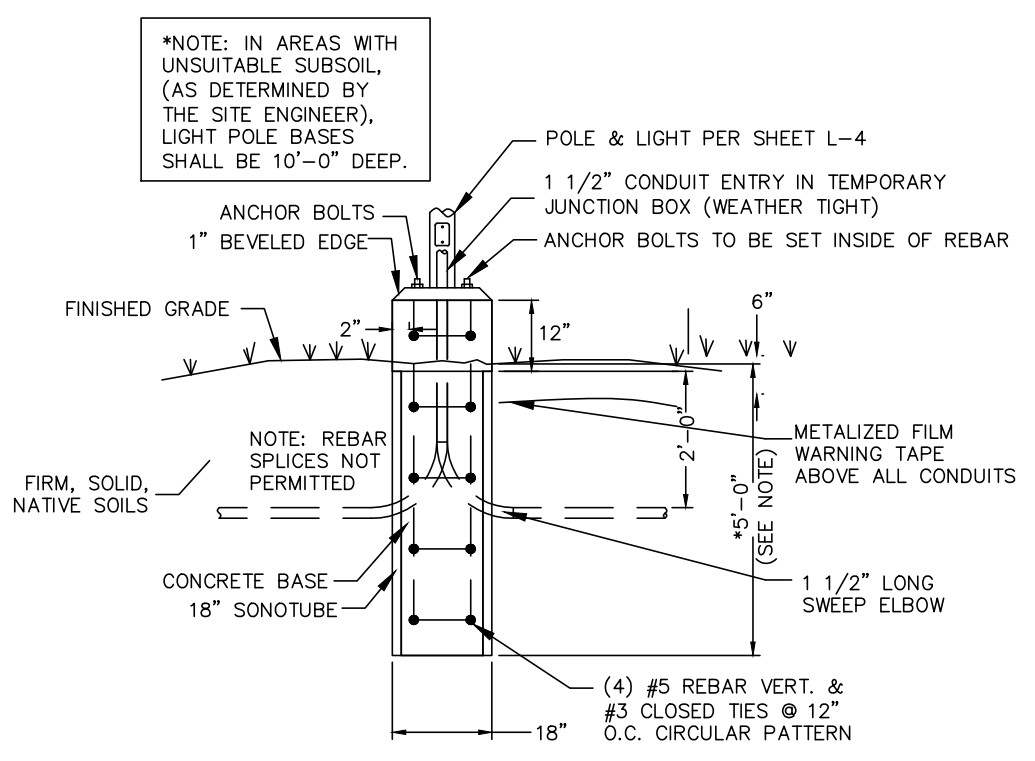
Steebuck Engineering & Surveying, Inc.  
 279 Lebanon, Pennsylvania 17042  
 Phone: (717) 272-7110  
 Fax: (717) 272-7348

FIELD CREW:	MOD, JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
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DATE:	11/4/22
SCALE:	1"=50'
PROJECT #	#784-22-001

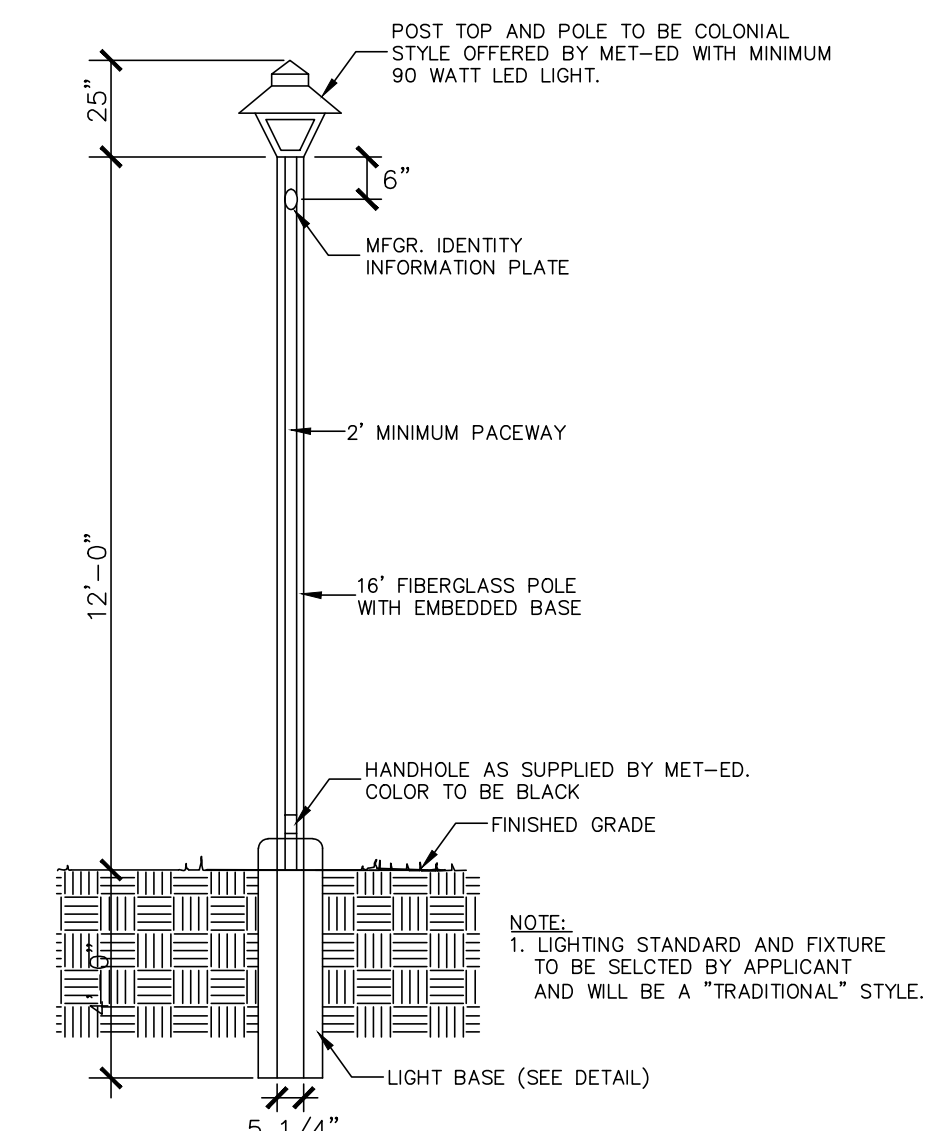


**LEGEND**

	<b>EXISTING FEATURES</b>		<b>PROPOSED FEATURES</b>
	EXISTING ADJOINER LINE		PROPOSED BUILDING SETBACK
	EXISTING BOUNDARY LINE AND CORNERS		PROPOSED BOUNDARY LINE AND CORNERS
	EXISTING EDGE OF PAVEMENT AND CURB LINE		PROPOSED EDGE OF PAVEMENT AND CURB LINE
	EXISTING RIGHT-OF-WAY		PROPOSED RIGHT-OF-WAY
	EXISTING FENCE		PROPOSED FENCE
	EXISTING SEWER		PROPOSED SEWER
	EXISTING STORMWATER		PROPOSED STORMWATER
	EXISTING WATERLINE		PROPOSED DOMESTIC WATERLINE
	EXISTING GASLINE		PROPOSED GASLINE
	EXISTING SIDEWALK/CONCRETE		PROPOSED CONCRETE/SIDEWALK
	EXISTING CONTOURS		PROPOSED CONTOURS
	EXISTING TOWNSHIP BOUNDARY		PROPOSED TREELINE
	LIMITS OF FIELD SURVEY		PROPOSED UTILITY POLE
	EXISTING SOILS		PROPOSED LIGHT POLE
	EXISTING UTILITY POLE		
	EXISTING LIGHT POLE		



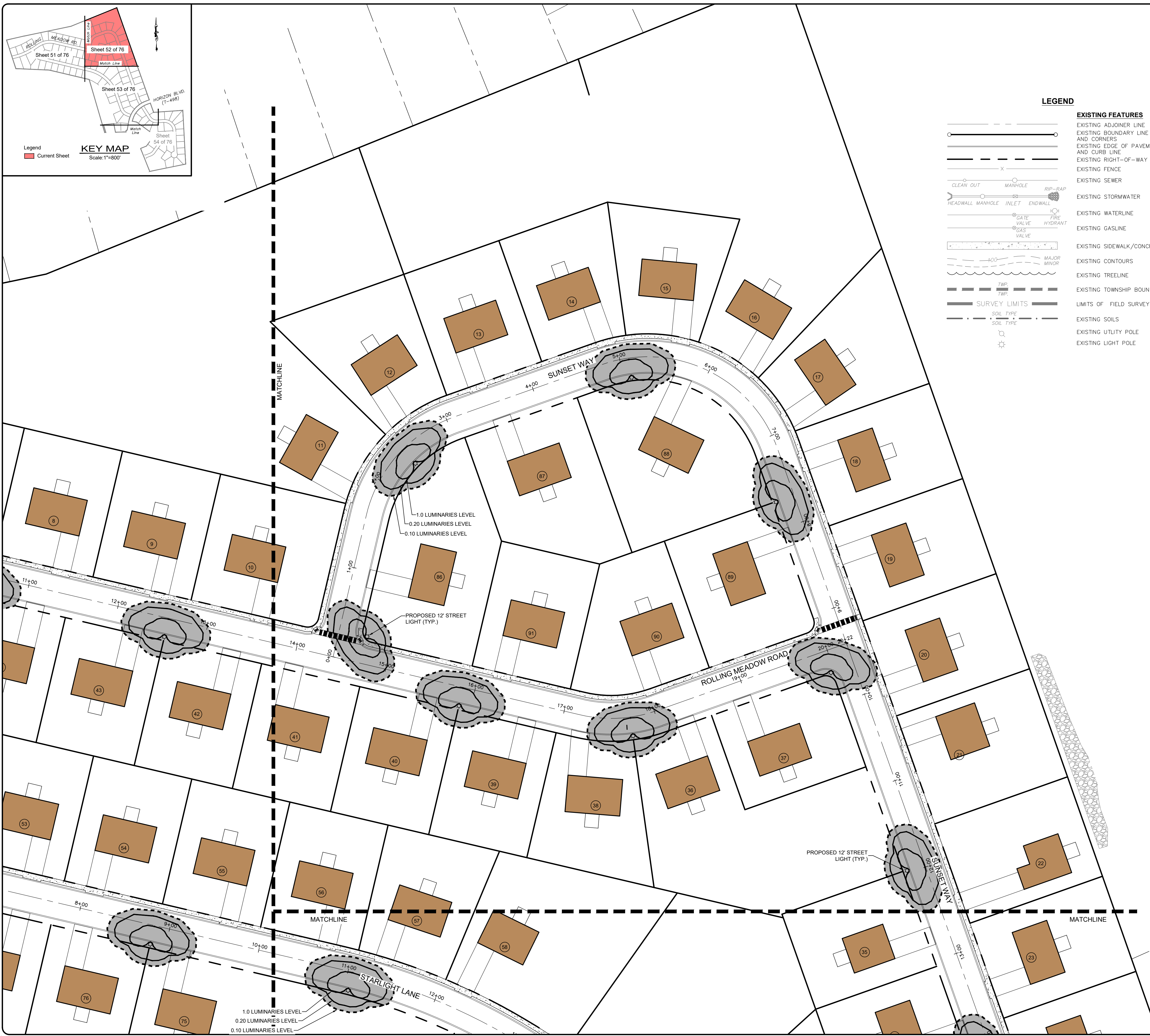
**LIGHT BASE DETAIL**  
NO SCALE



**NOTES:**

- ALL STREET LIGHTS SHALL BE INSTALLED IN ACCORDANCE WITH METROPOLITAN-EDISON STANDARDS AND SPACING CRITERIA. STREET LIGHTS WILL BE REQUIRED AT PERIODIC LOCATIONS WITHIN THE DEVELOPMENT.
- ALL LIGHT FIXTURES SHALL MEET THE IESNA FULL-CUTOFF CRITERIA.

**STREET LIGHT DETAIL**  
NO SCALE



REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCDF LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**LIGHTING PLAN**

PRELIMINARY SUBDIVISION

THE ESTATES AT HEARTSIDE

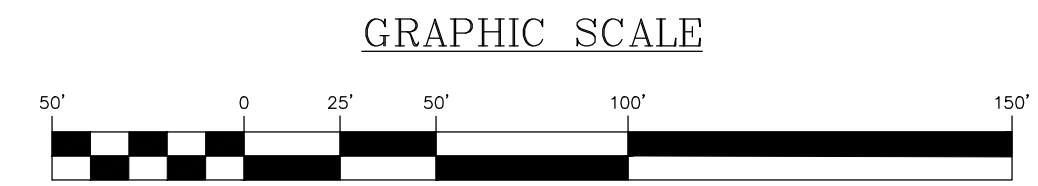
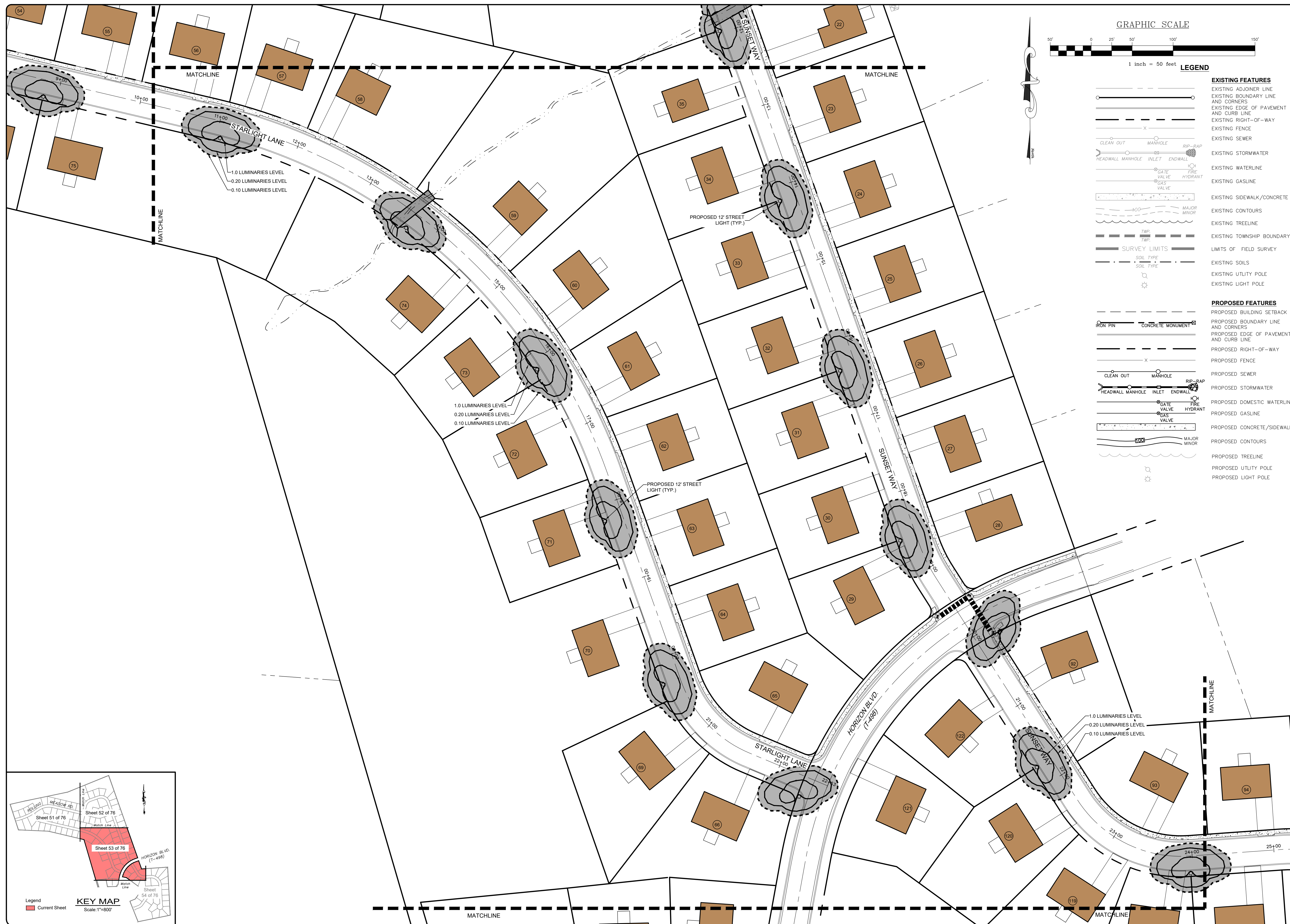
located in

NORTH LEBANON TOWNSHIP

LEBANON County, Pennsylvania

Steadbeck Engineering & Surveying Inc.  
279 Lebanon, Pennsylvania 17042  
Phone: (717) 272-7110  
Fax: (717) 272-7348

FIELD CREW:	MOD,JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=50'
PROJECT #	#784-22-001



**LEGEND**

EXISTING FEATURES	PROPOSED FEATURES
EXISTING ADJONER LINE	PROPOSED BUILDING SETBACK
EXISTING BOUNDARY LINE AND CORNERS	PROPOSED BOUNDARY LINE AND CORNERS
EXISTING EDGE OF PAVEMENT AND CURB LINE	PROPOSED EDGE OF PAVEMENT AND CURB LINE
EXISTING RIGHT-OF-WAY	PROPOSED RIGHT-OF-WAY
EXISTING FENCE	PROPOSED FENCE
EXISTING SEWER	PROPOSED SEWER
EXISTING STORMWATER	PROPOSED STORMWATER
EXISTING WATERLINE	PROPOSED DOMESTIC WATERLINE
EXISTING GASLINE	PROPOSED GASLINE
EXISTING SIDEWALK/CONCRETE	PROPOSED CONCRETE/SIDEWALK
EXISTING CONTOURS	PROPOSED CONTOURS
EXISTING TREELINE	PROPOSED TREELINE
EXISTING TOWNSHIP BOUNDARY	PROPOSED UTILITY POLE
LIMITS OF FIELD SURVEY	PROPOSED LIGHT POLE
EXISTING SOILS	
EXISTING UTILITY POLE	
EXISTING LIGHT POLE	

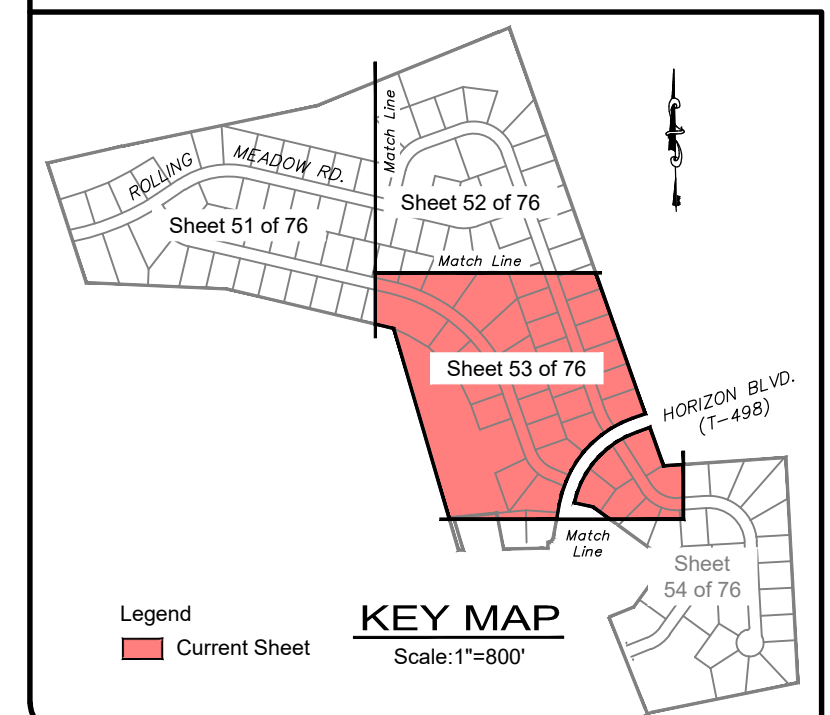
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REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**LIGHTING PLAN**  
 For  
**PRELIMINARY SUBDIVISION**  
**THE ESTATES AT HEARTSIDE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

**ESI**  
 Steadbeck Engineering & Surveying, Inc.  
 279 Lebanon, Pennsylvania 17042  
 Phone: (717) 272-7110  
 Fax: (717) 272-7348

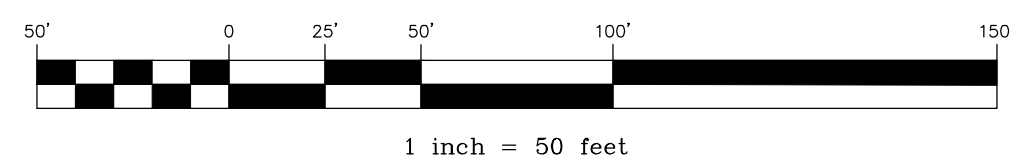
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BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT #784-22-001

53  
 53 OF 76 SHEETS



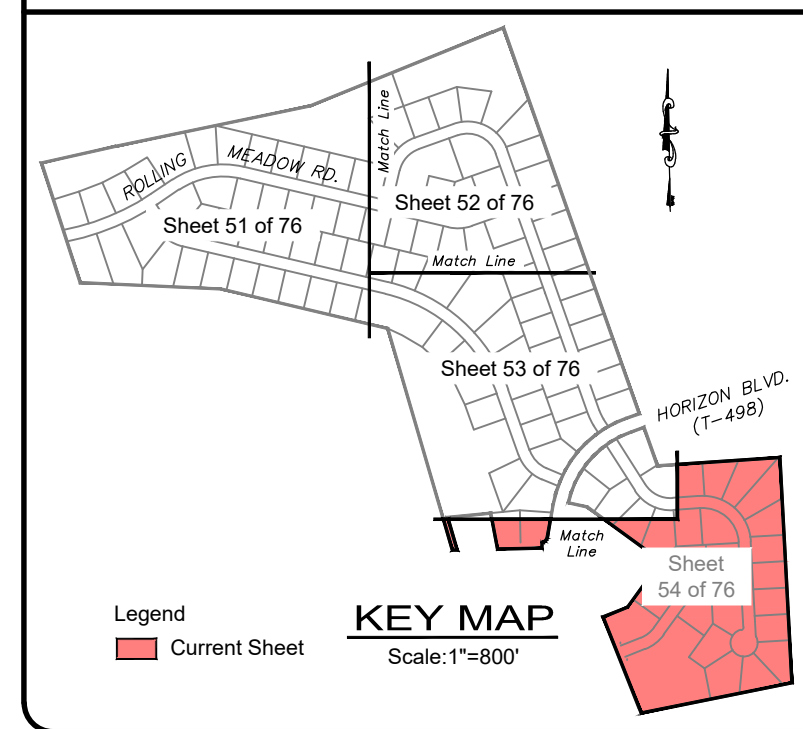


**GRAPHIC SCALE**



**LEGEND**

- |  |   |
|--|---|
| <p><b>EXISTING FEATURES</b></p> <ul style="list-style-type: none"> <li>--- EXISTING ADJOINER LINE</li> <li>--- EXISTING BOUNDARY LINE AND CORNERS</li> <li>--- EXISTING EDGE OF PAVEMENT AND CURB LINE</li> <li>--- EXISTING RIGHT-OF-WAY</li> <li>--- EXISTING FENCE</li> <li>--- EXISTING SEWER</li> <li>--- EXISTING STORMWATER</li> <li>--- EXISTING WATERLINE</li> <li>--- EXISTING GASLINE</li> <li>--- EXISTING SIDEWALK/CONCRETE</li> <li>--- EXISTING CONTOURS</li> <li>--- EXISTING TREELINE</li> <li>--- EXISTING TOWNSHIP BOUNDARY</li> <li>--- SURVEY LIMITS</li> <li>--- SOIL TYPE</li> <li>--- SOIL TYPE</li> </ul> | <p><b>PROPOSED FEATURES</b></p> <ul style="list-style-type: none"> <li>--- PROPOSED BUILDING SETBACK</li> <li>--- PROPOSED BOUNDARY LINE AND CORNERS</li> <li>--- PROPOSED EDGE OF PAVEMENT AND CURB LINE</li> <li>--- PROPOSED RIGHT-OF-WAY</li> <li>--- PROPOSED FENCE</li> <li>--- PROPOSED SEWER</li> <li>--- PROPOSED STORMWATER</li> <li>--- PROPOSED DOMESTIC WATERLINE</li> <li>--- PROPOSED GASLINE</li> <li>--- PROPOSED CONCRETE/SIDEWALK</li> <li>--- PROPOSED CONTOURS</li> <li>--- PROPOSED TREELINE</li> <li>--- PROPOSED UTILITY POLE</li> <li>--- PROPOSED LIGHT POLE</li> </ul> |
|--|---|



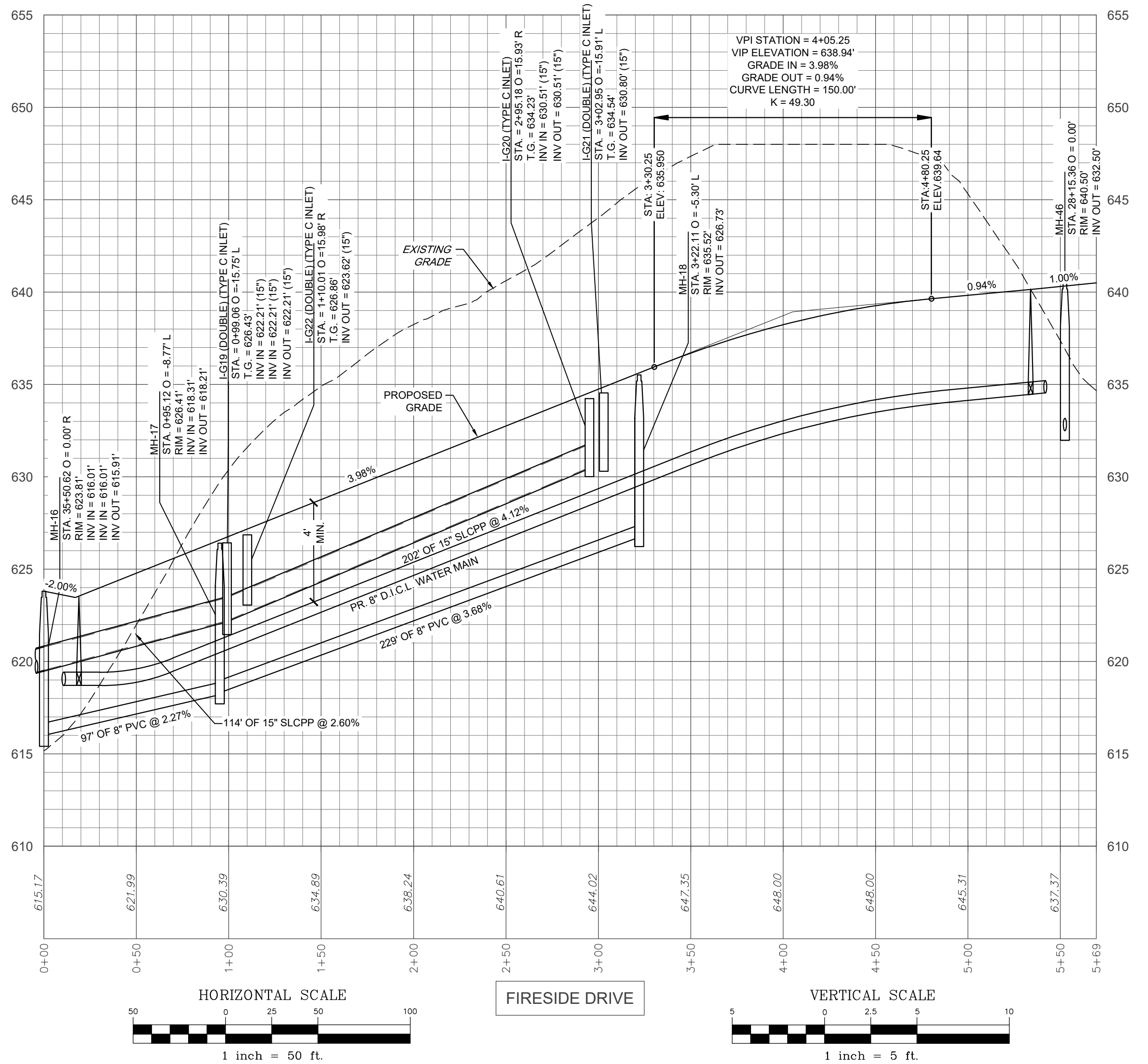
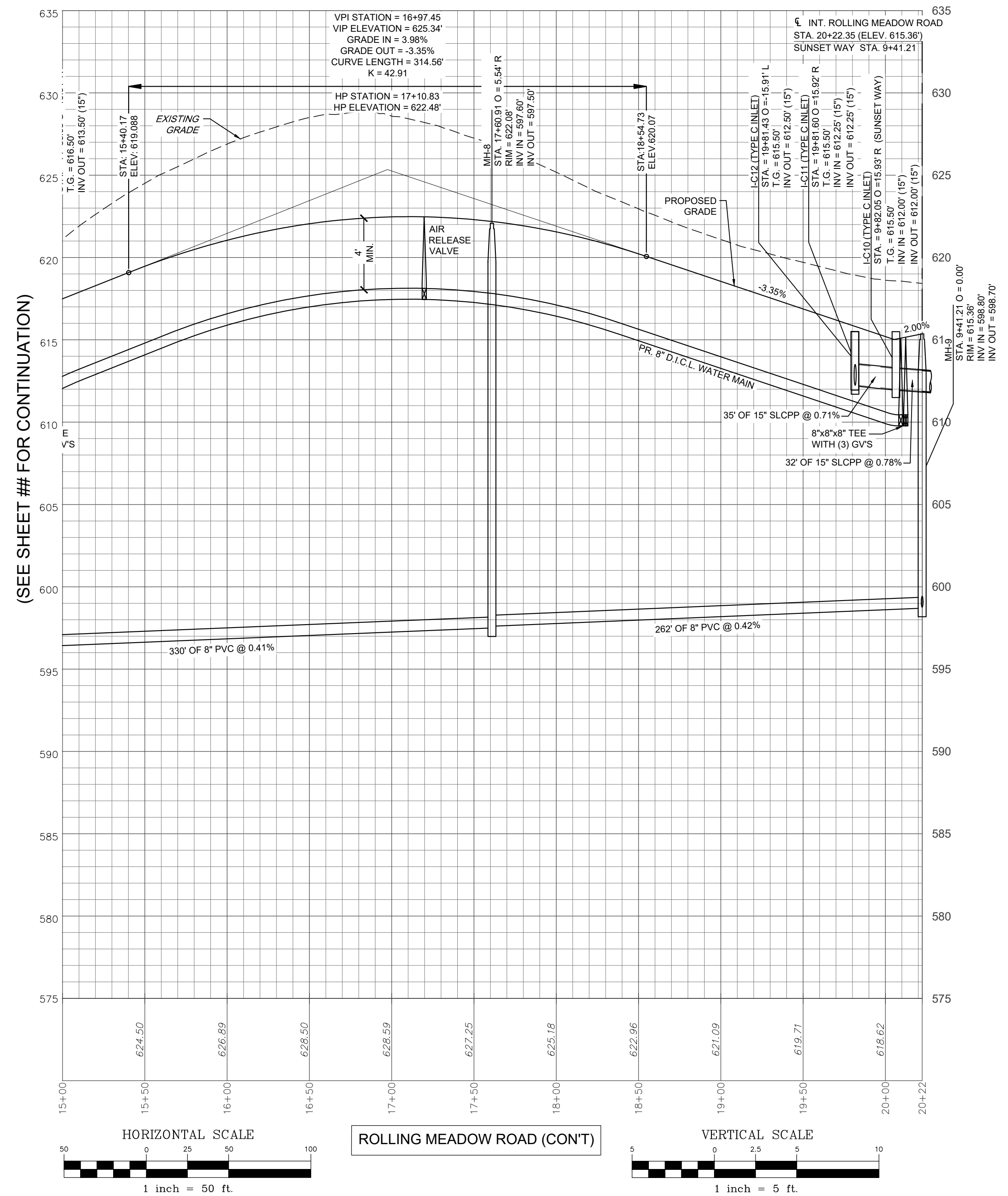
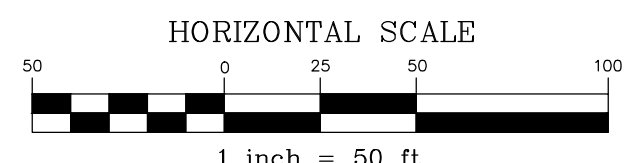
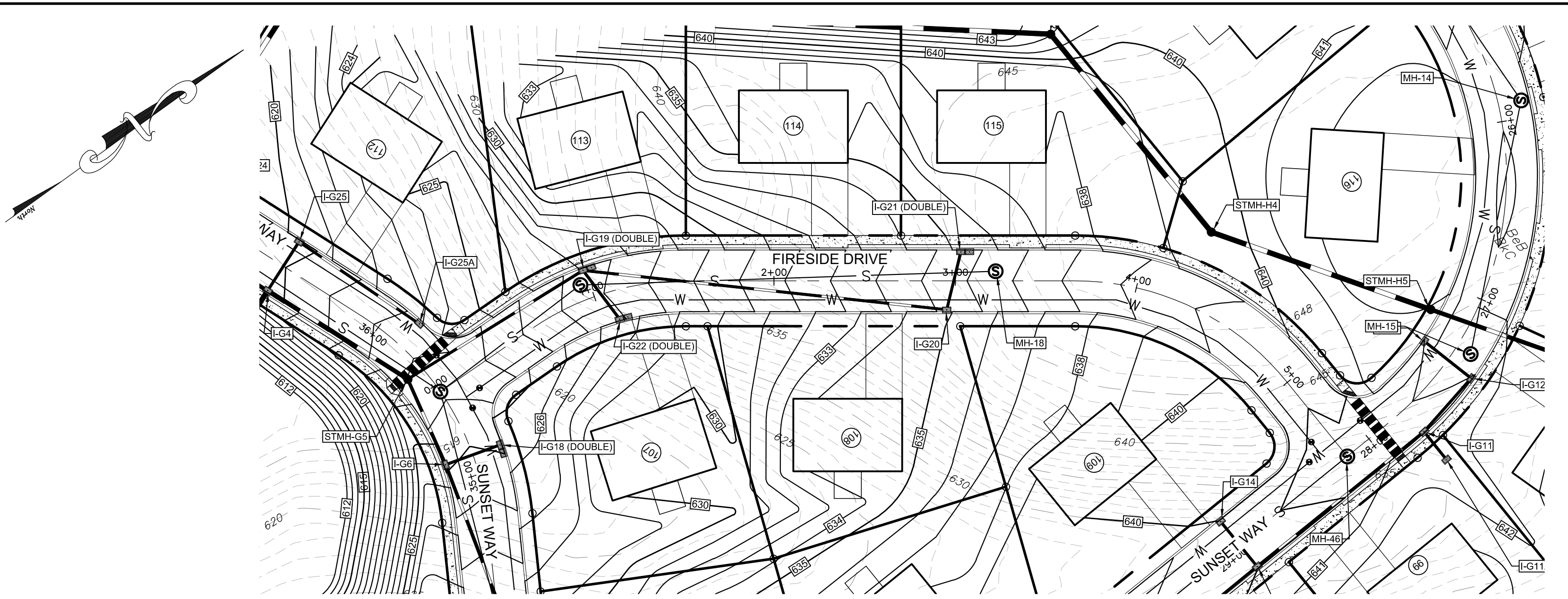
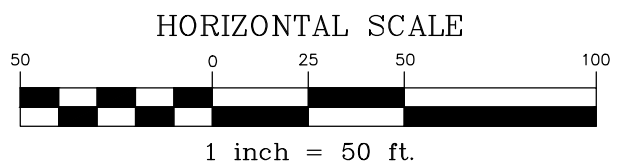
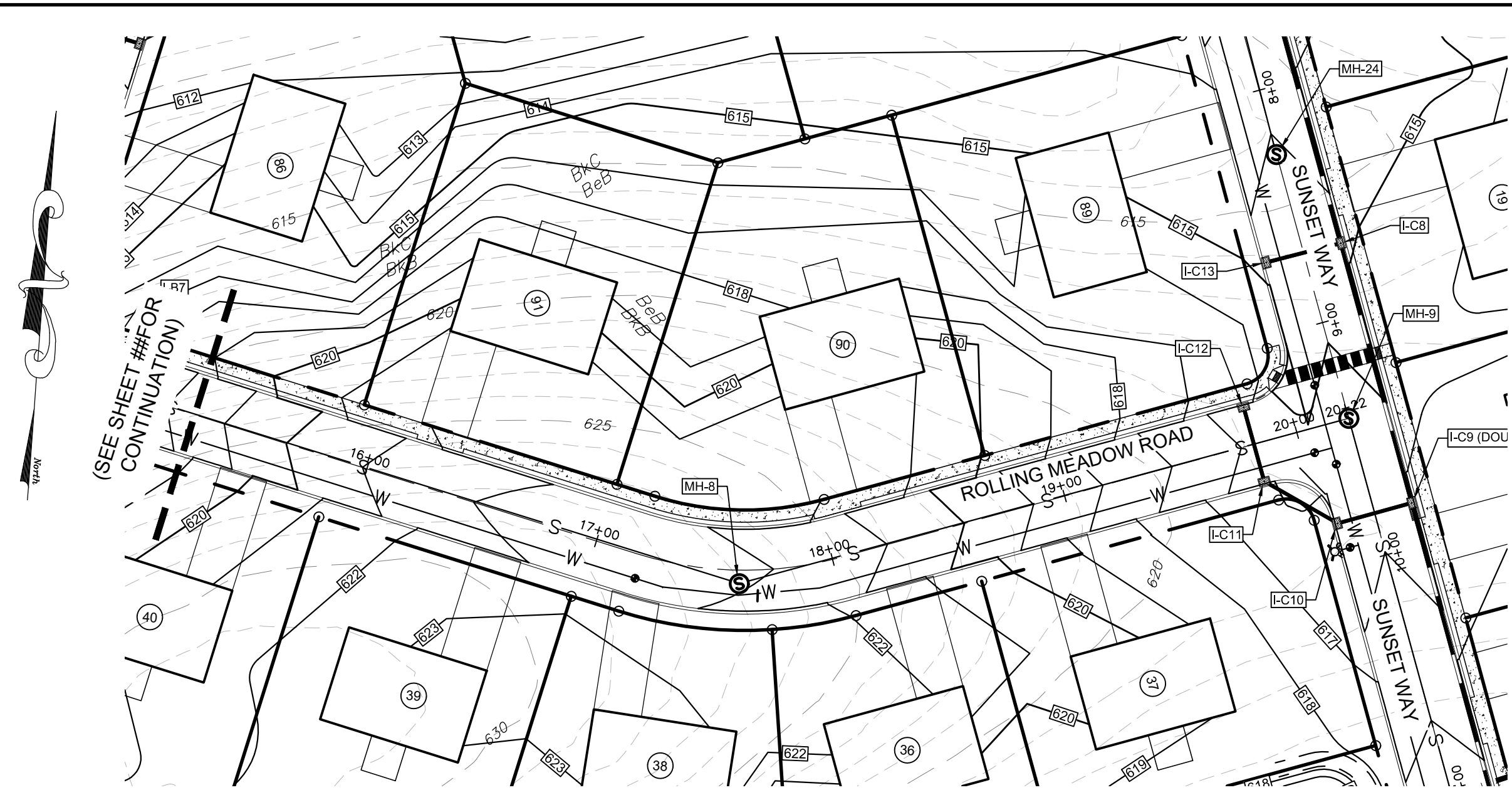
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REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**LIGHTING PLAN**  
 For  
**PRELIMINARY SUBDIVISION**  
**THE ESTATES AT HEARTSIDE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

**SCS**  
 Engineering & Surveying, Inc.  
 279 Lebanon, Pennsylvania 17042  
 Phone: (717) 272-7110  
 Fax: (717) 272-7348

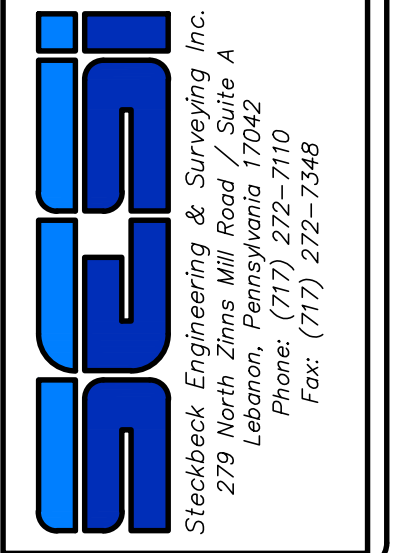
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BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT # 784-22-001





REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

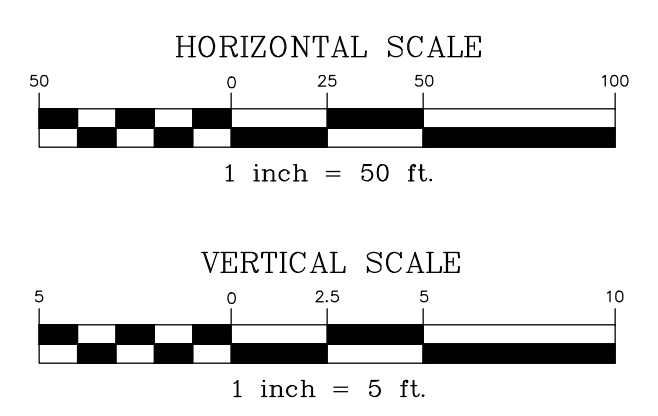
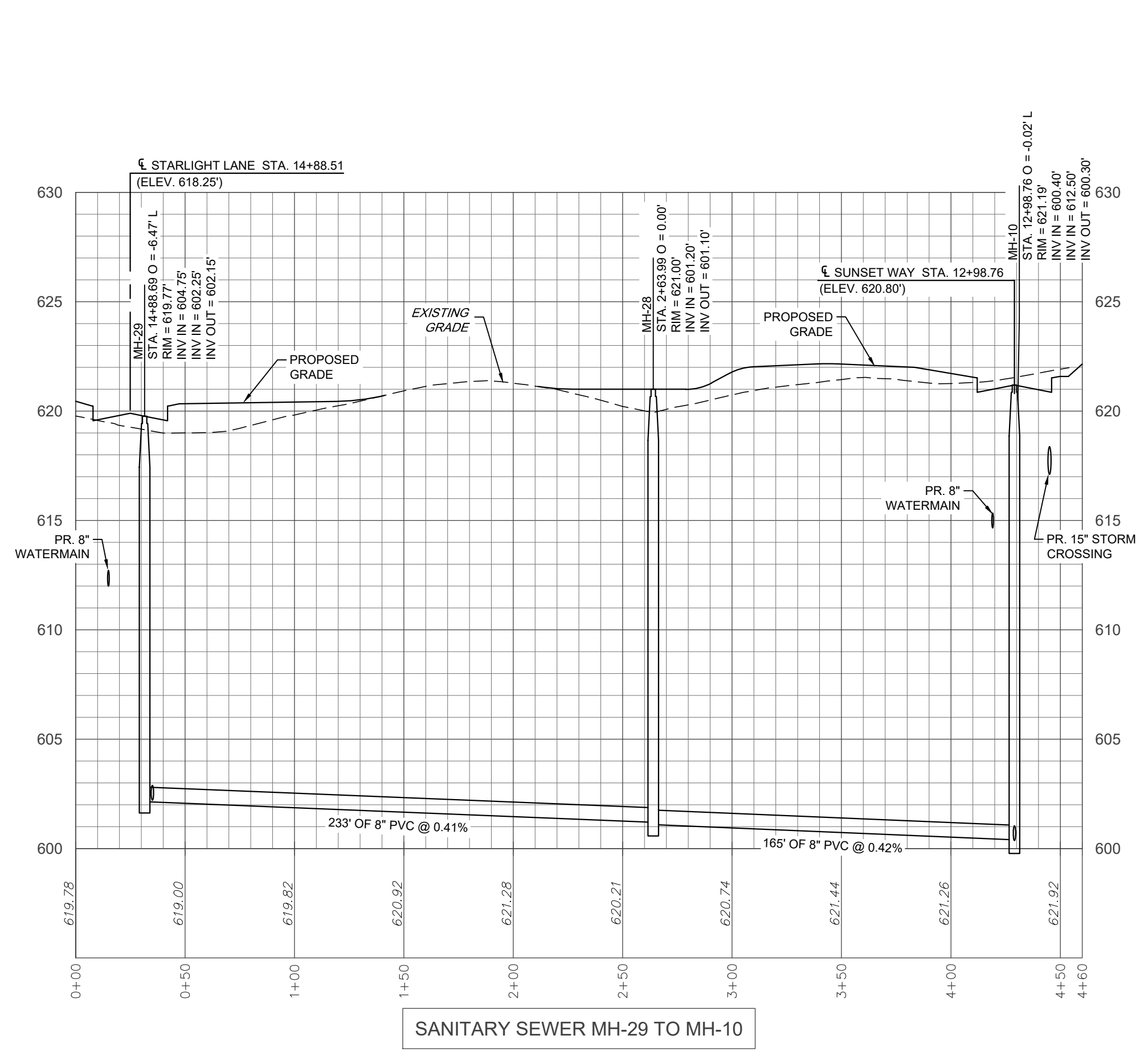
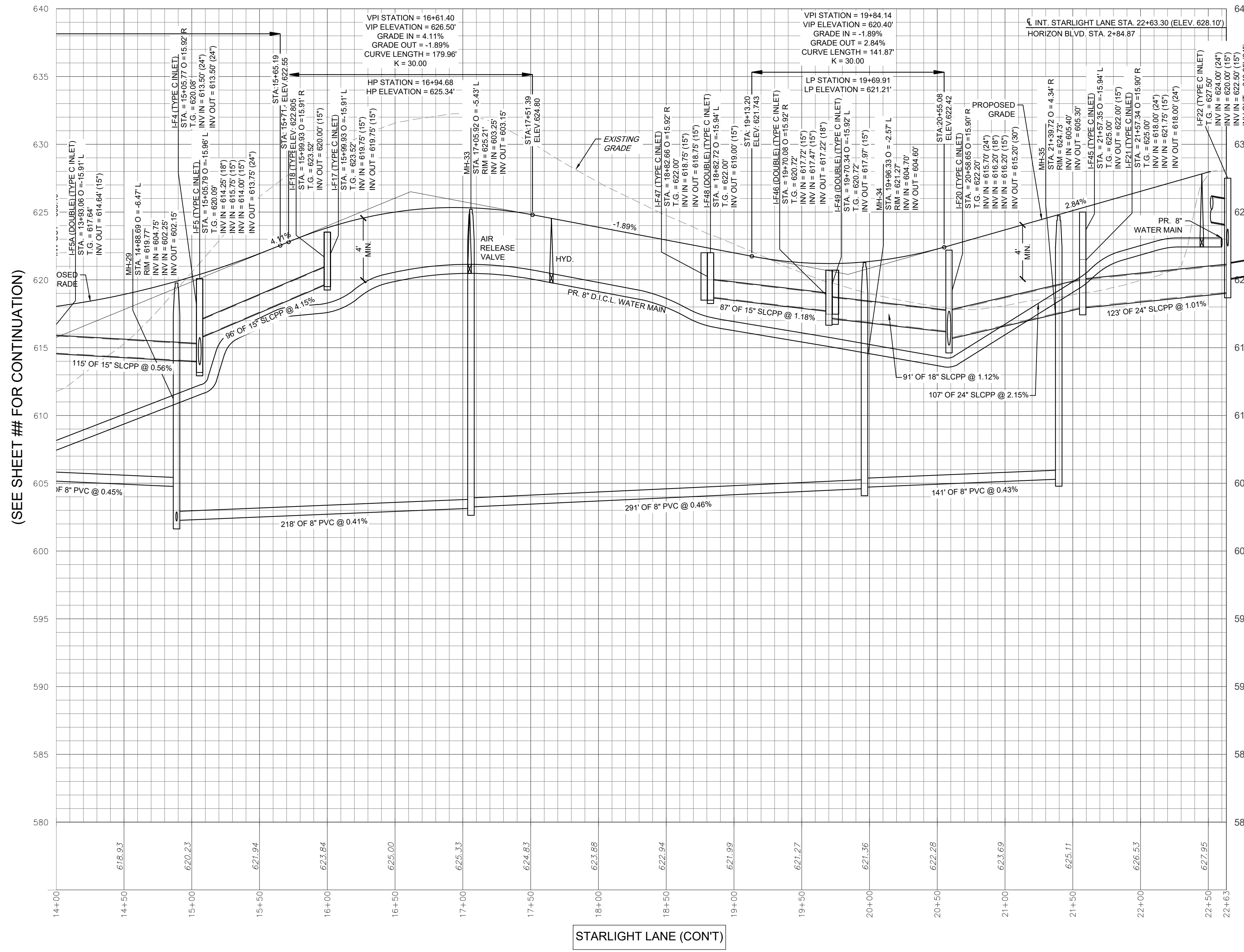
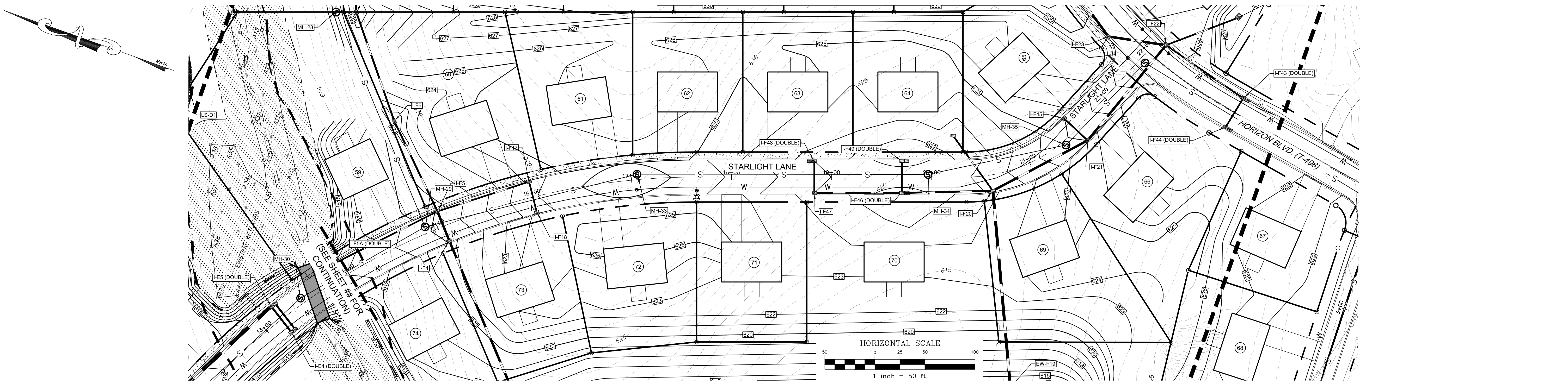
**PROFILES**  
 For  
**PRELIMINARY SUBDIVISION**  
**THE ESTATES AT HEARTSIDE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania



FIELD CREW:	MOD, JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=50'
PROJECT #	784-22-001



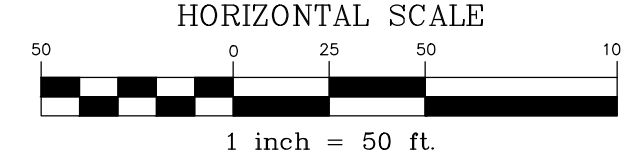
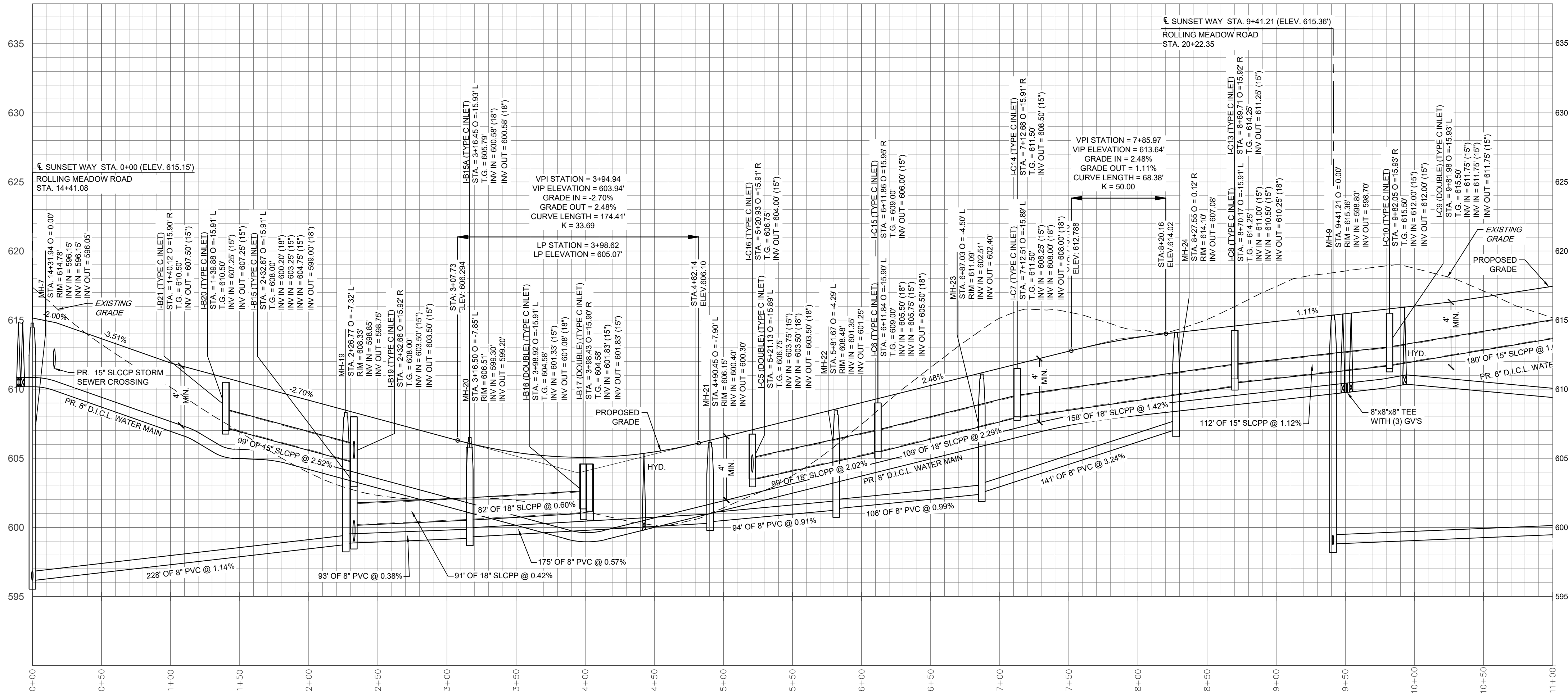
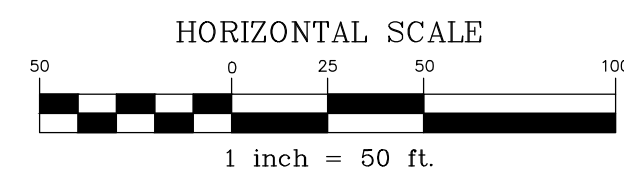




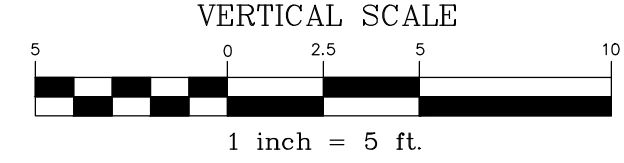
REVISION	DATE	BY
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REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**PROFILES**  
 For  
**PRELIMINARY SUBDIVISION**  
 THE ESTATES AT HEARTSIDE  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

FIELD CREW:	MOD,JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=50'
PROJECT #	784-22-001



SUNSET WAY

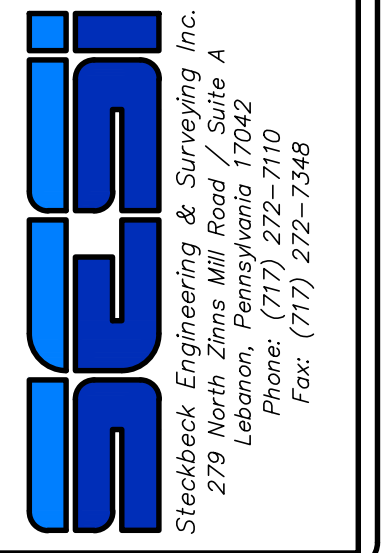


(SEE SHEET 60 FOR CONTINUATION)

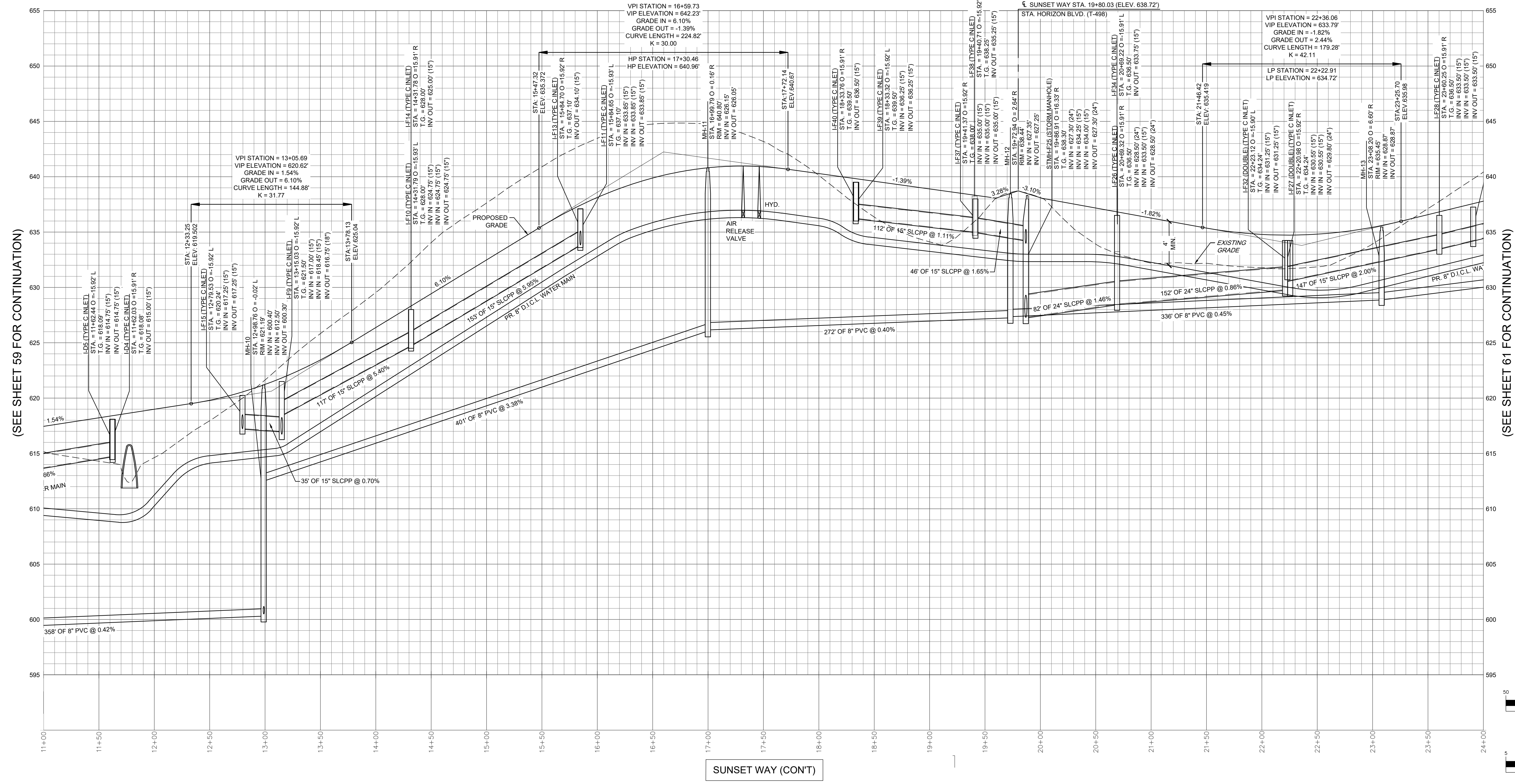
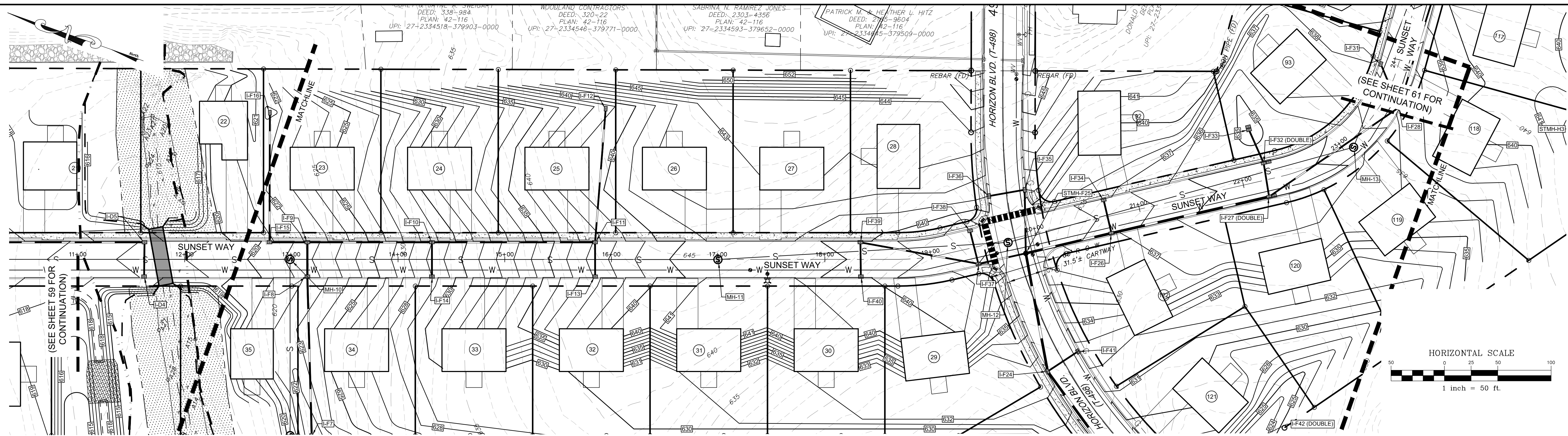
(SEE SHEET 60 FOR CONTINUATION)

REVISION	DATE	BY
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REVISED PER LCDD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

PROFILES  
 PRELIMINARY SUBDIVISION  
 For  
**THE ESTATES AT HEARTHSE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

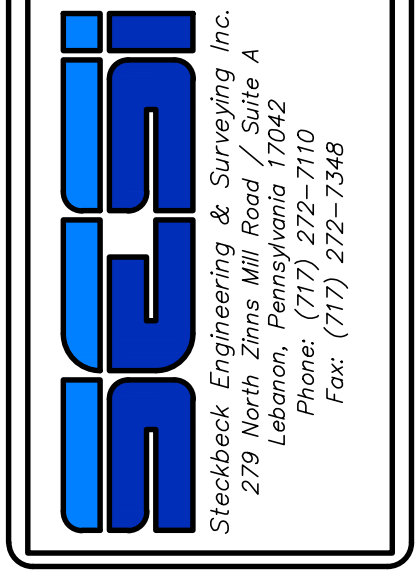


FIELD CREW:	MOO, JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=50'
PROJECT #	784-22-001

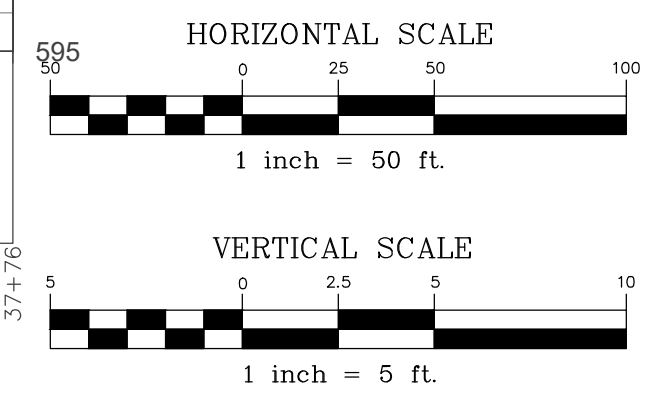
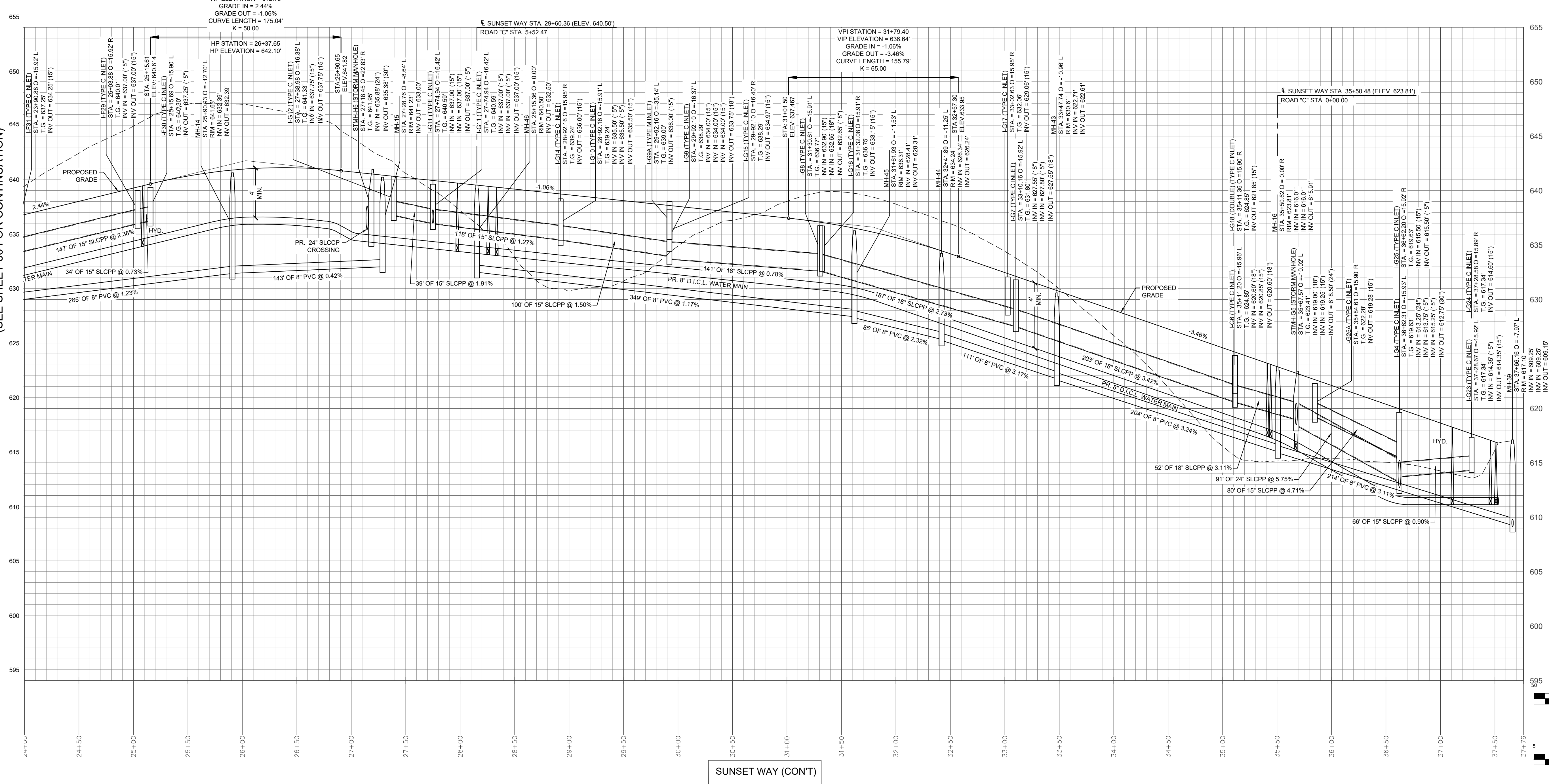
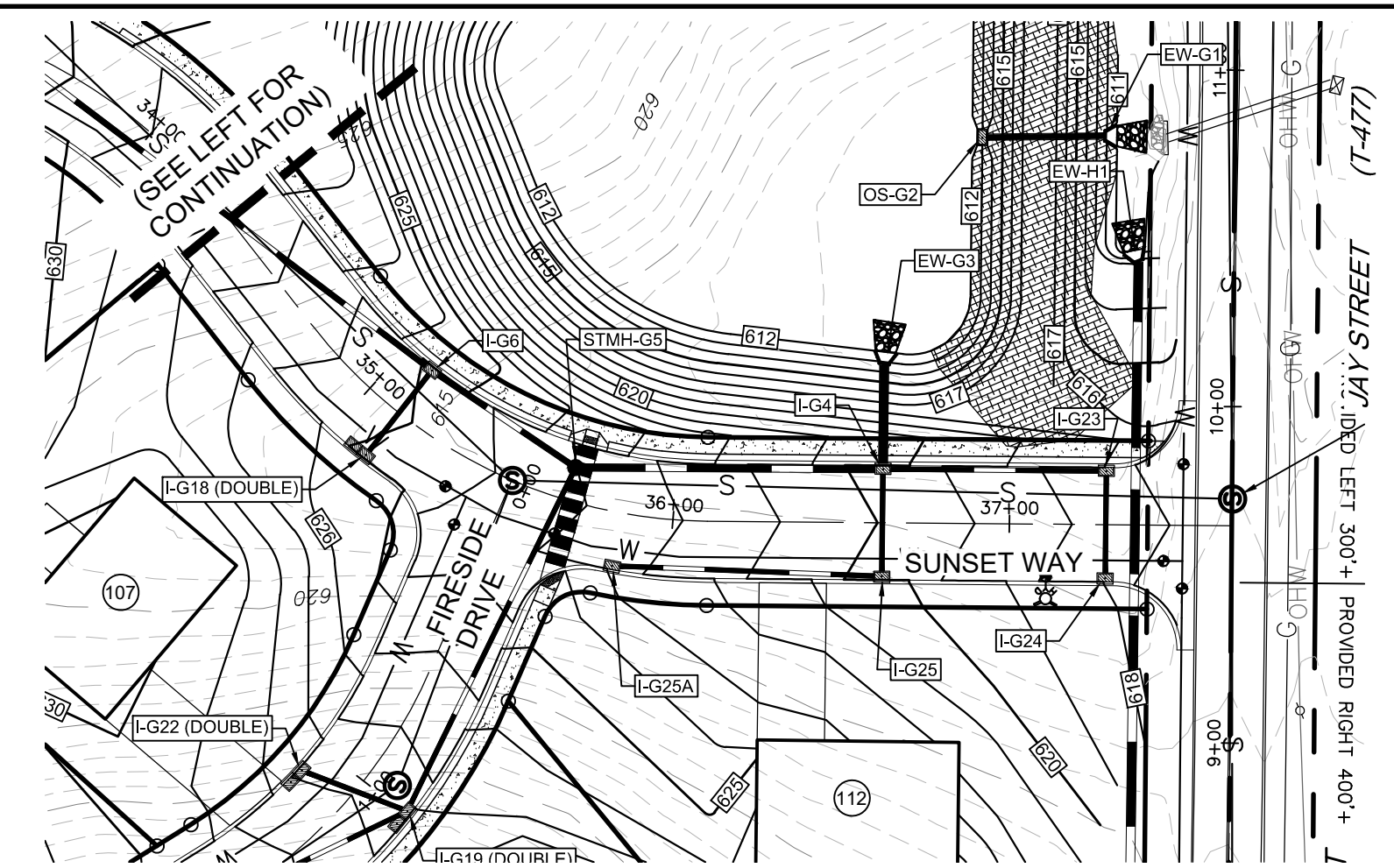
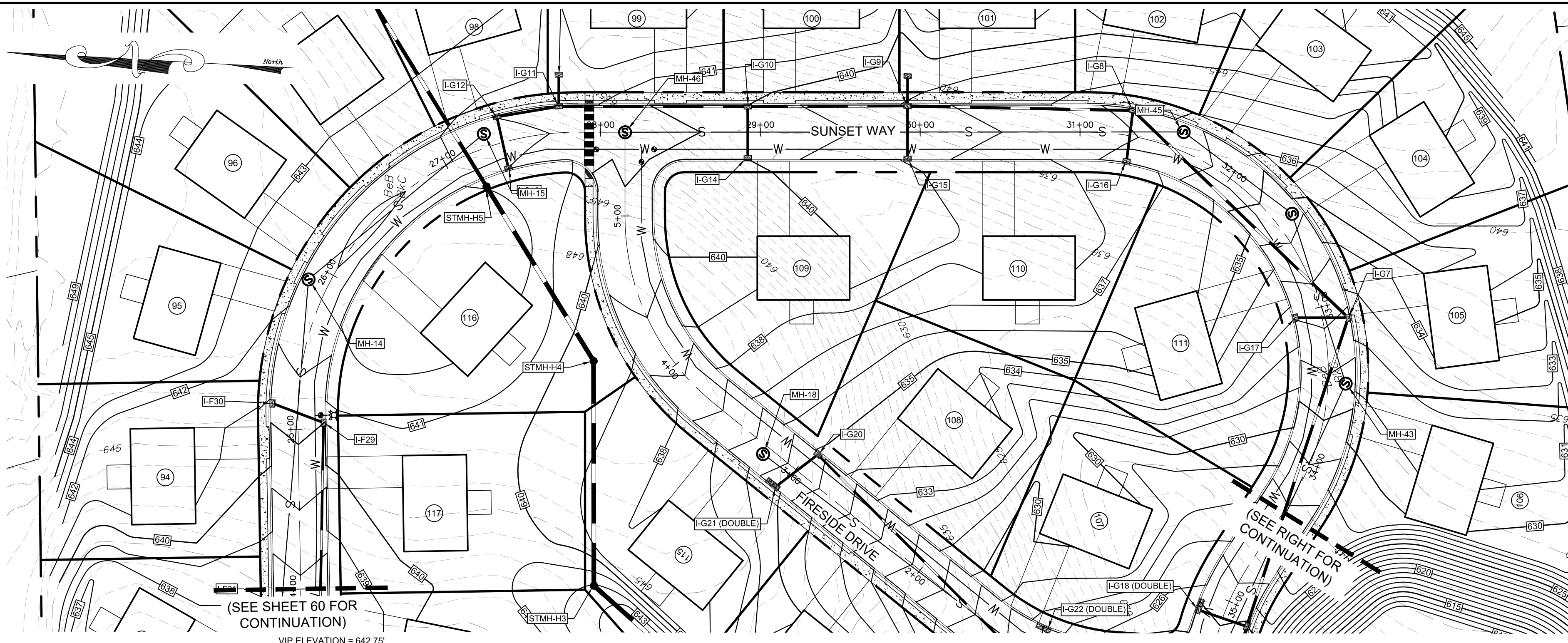


REVISION	DATE	BY
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REVISED PER LCPO LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

PROFILES  
 For  
 PRELIMINARY SUBDIVISION  
 THE ESTATES AT HEARTHSE  
 Located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

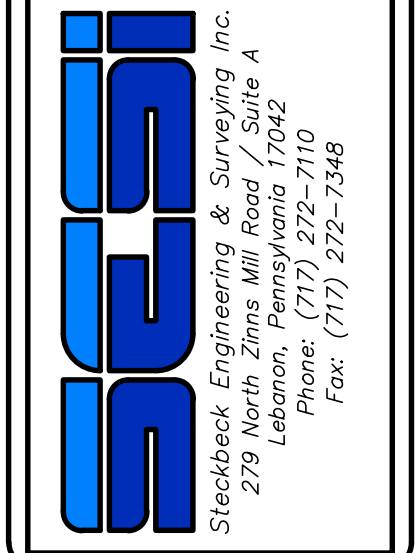


FIELD CREW:	MOO, JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=50'
PROJECT #	784-22-001

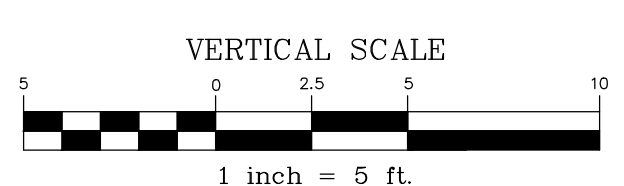
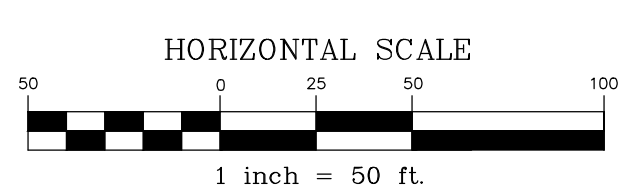
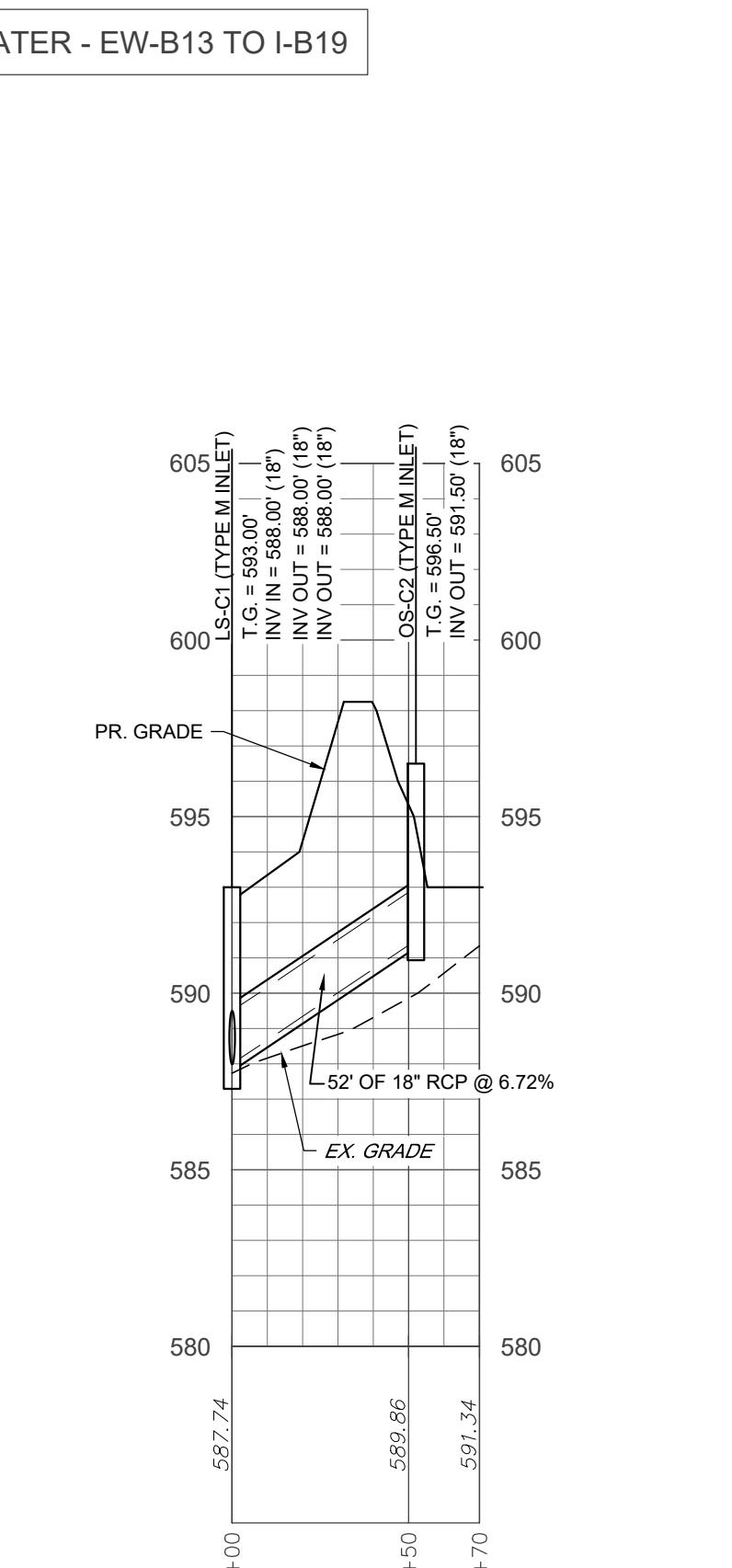
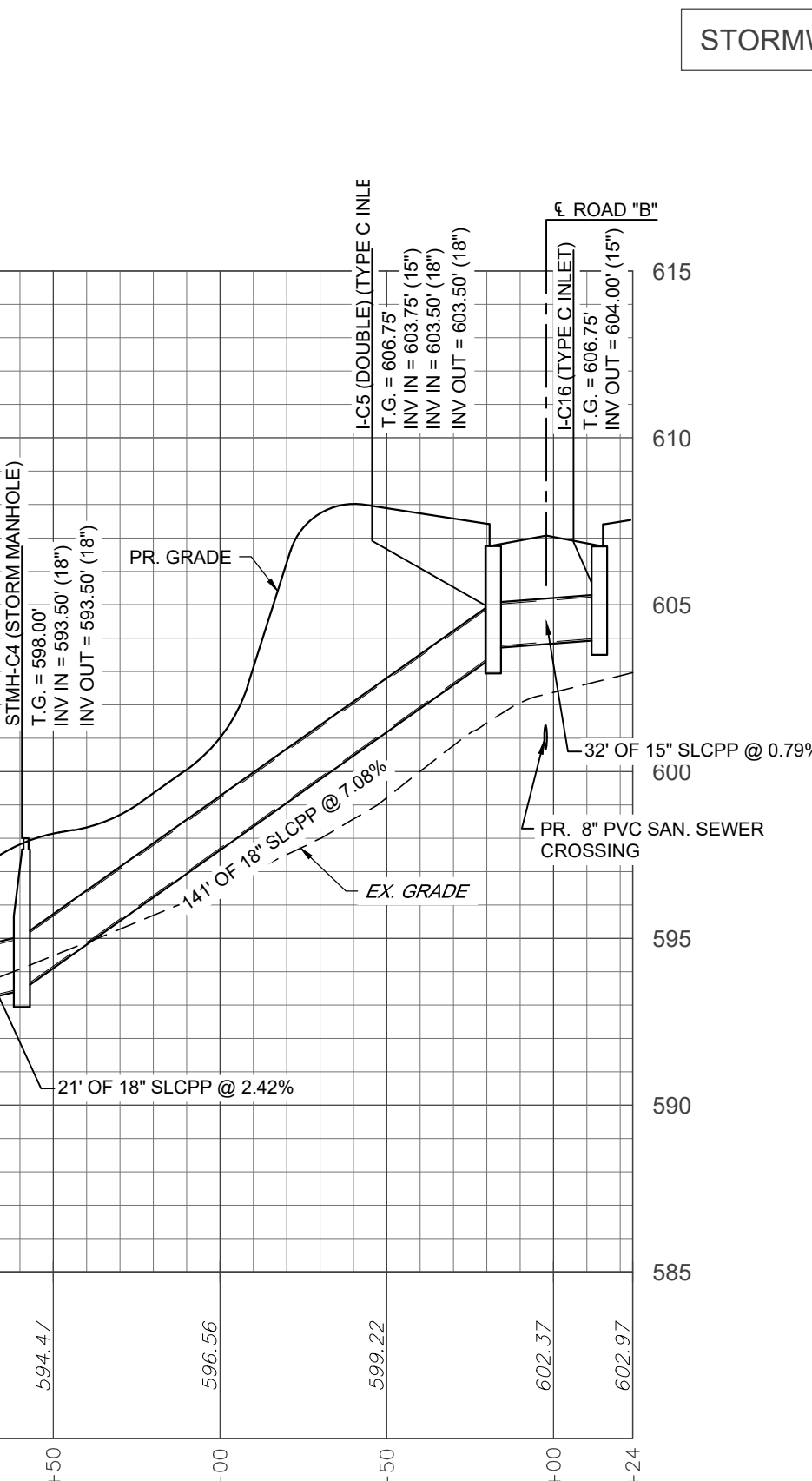
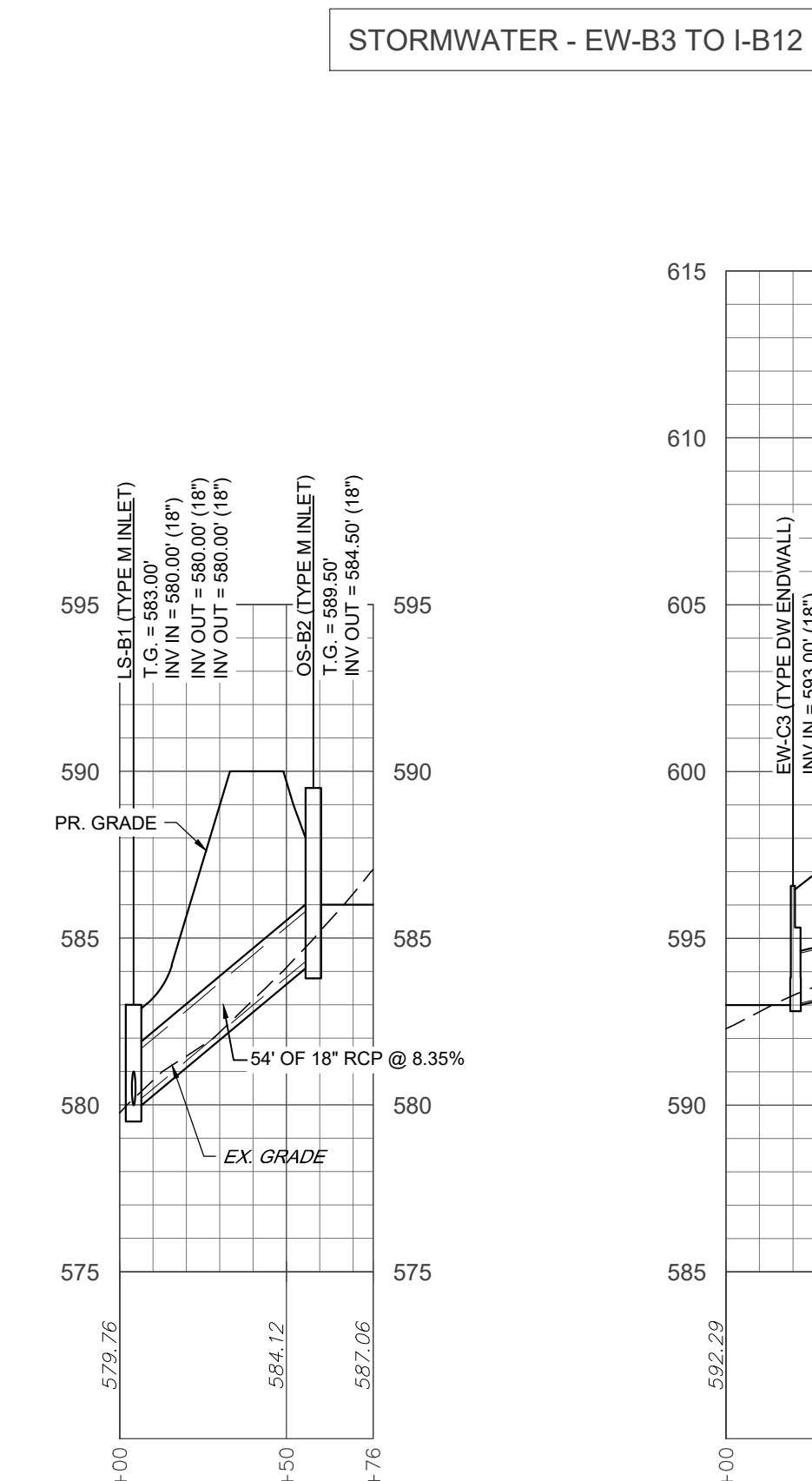
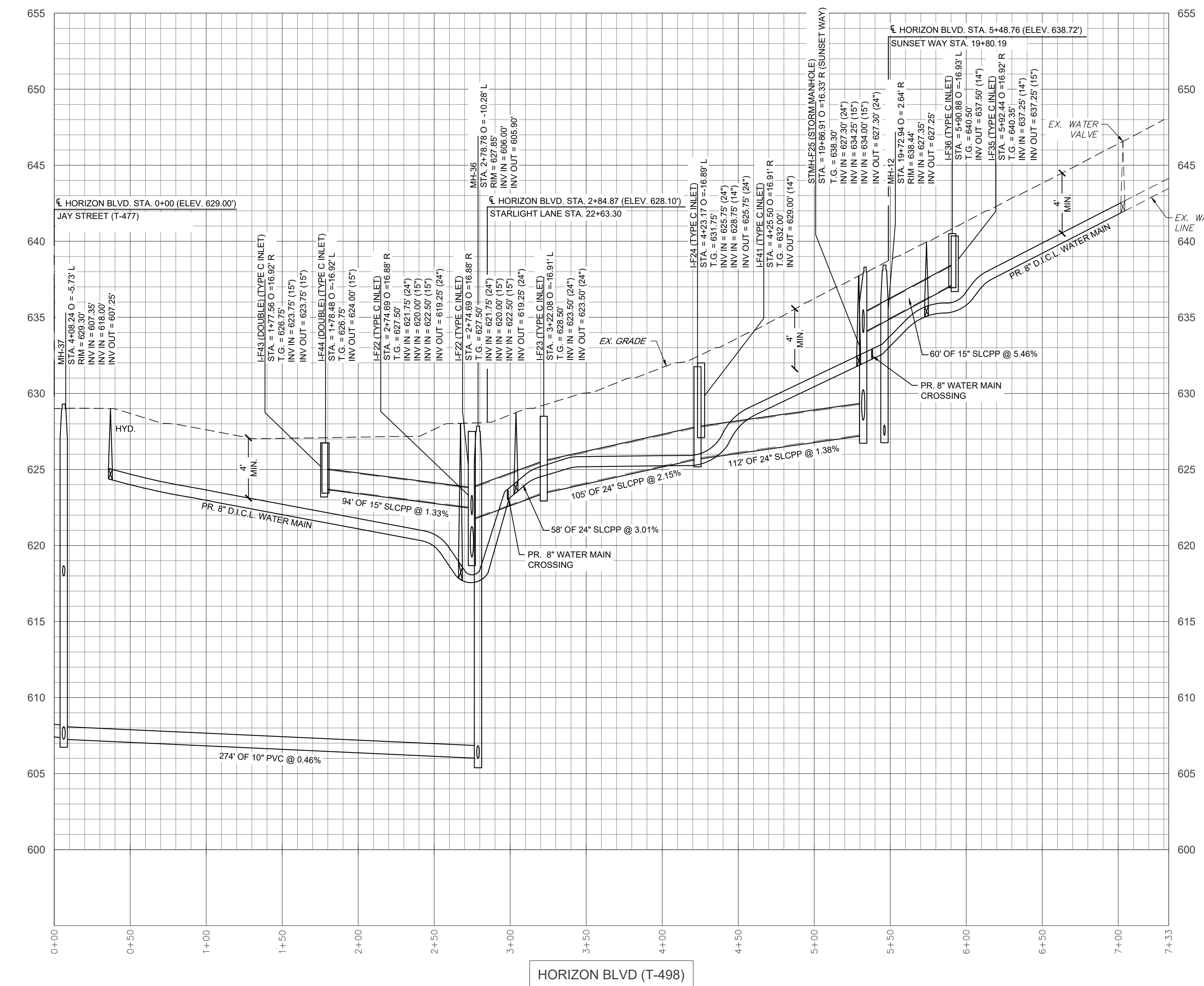
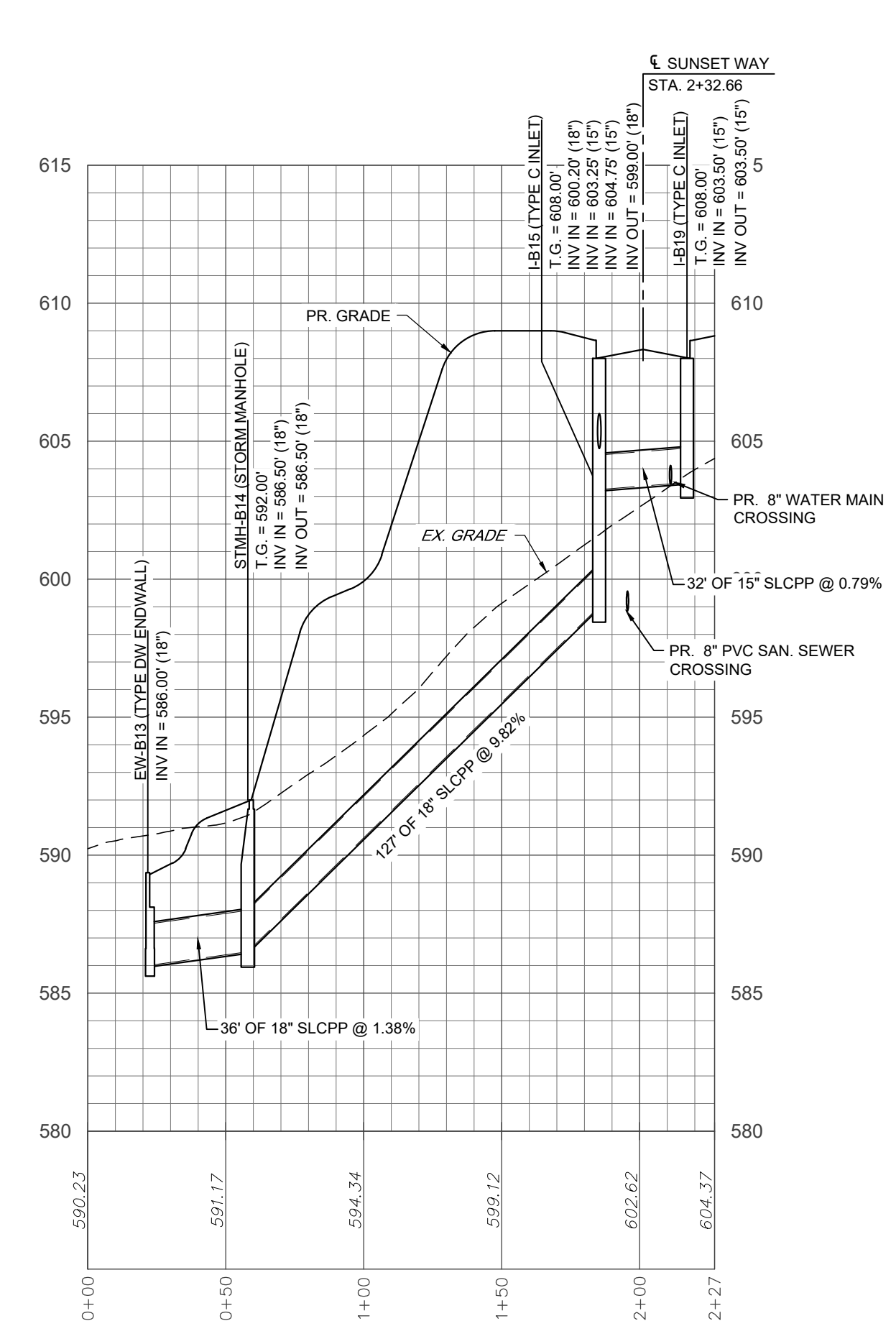
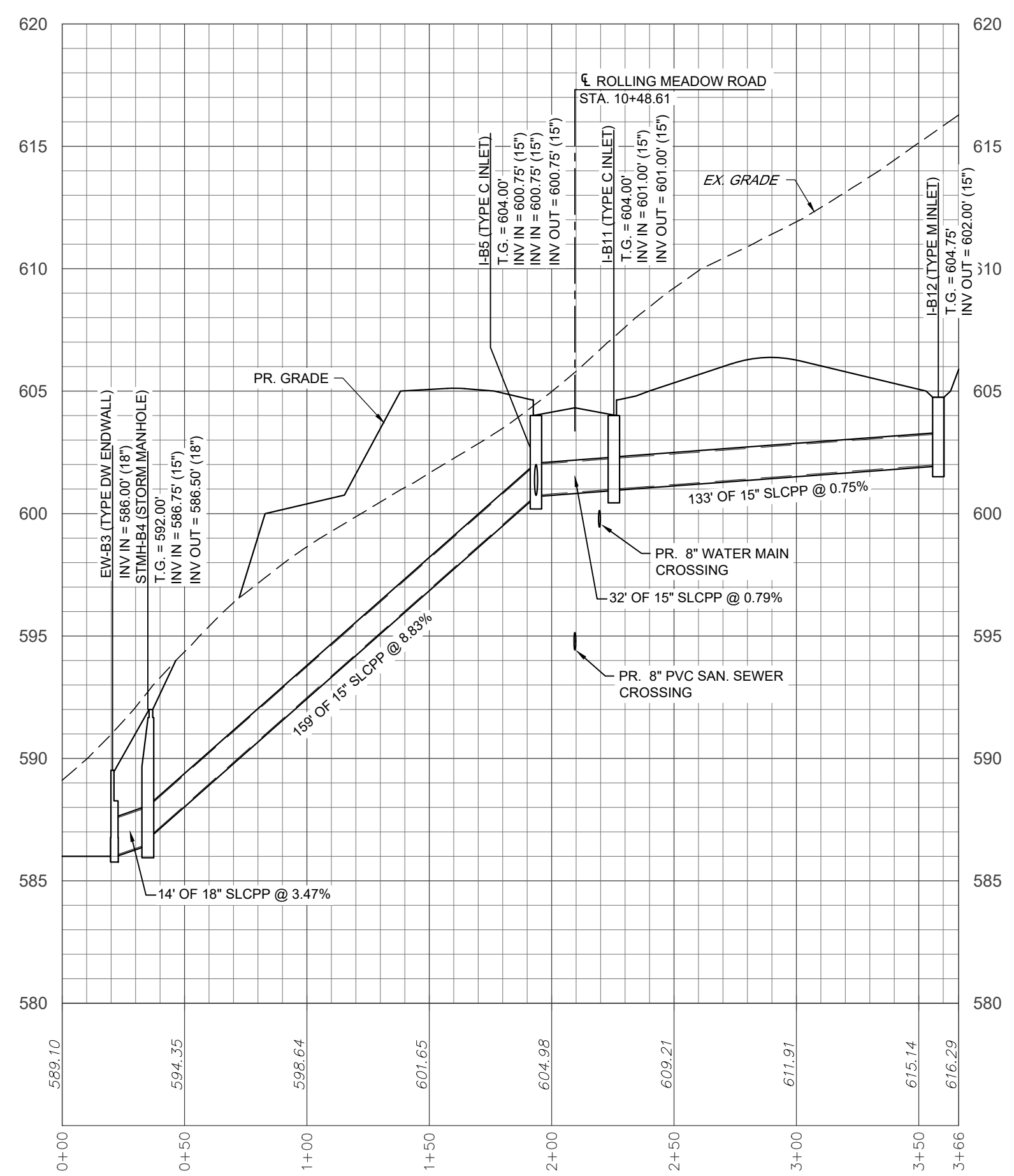
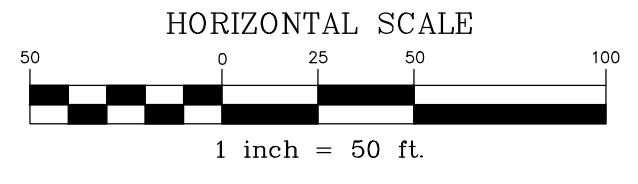
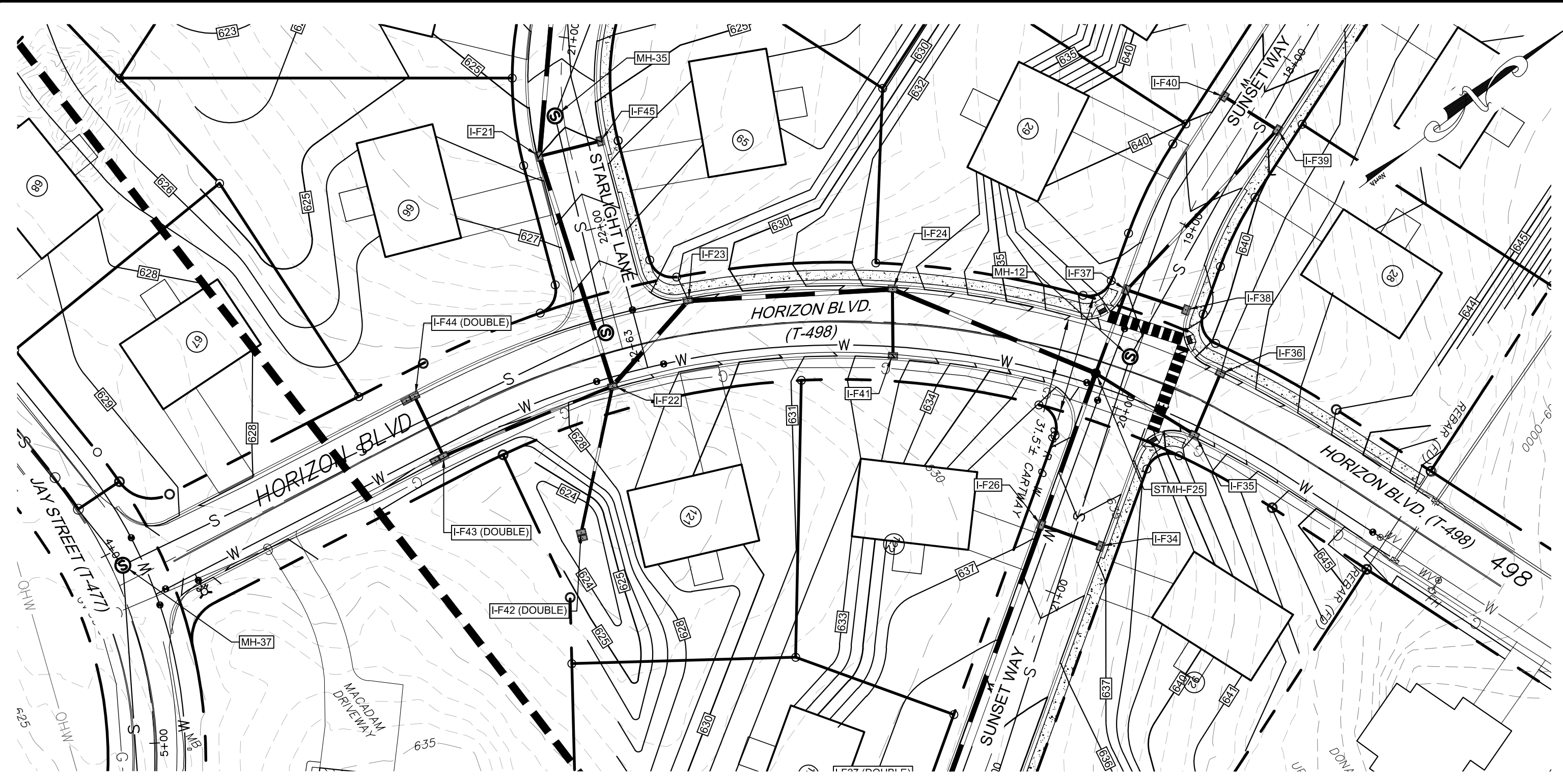


REVISION	DATE	BY
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REVISED PER LC/PD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LC/PD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**PROFILES**  
 For  
**PRELIMINARY SUBDIVISION**  
 THE ESTATES AT HEARTHSTONE  
located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

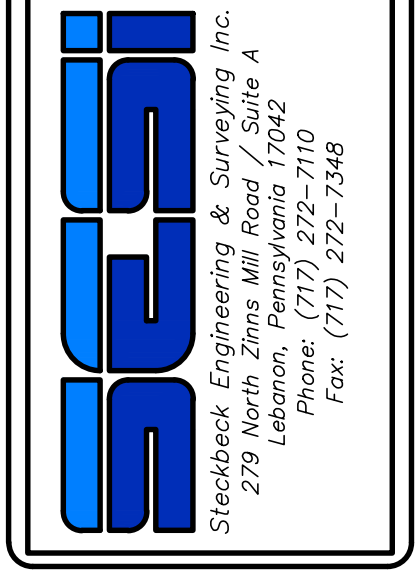


FIELD CREW:	MOO, JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=50'
PROJECT #	784-22-001

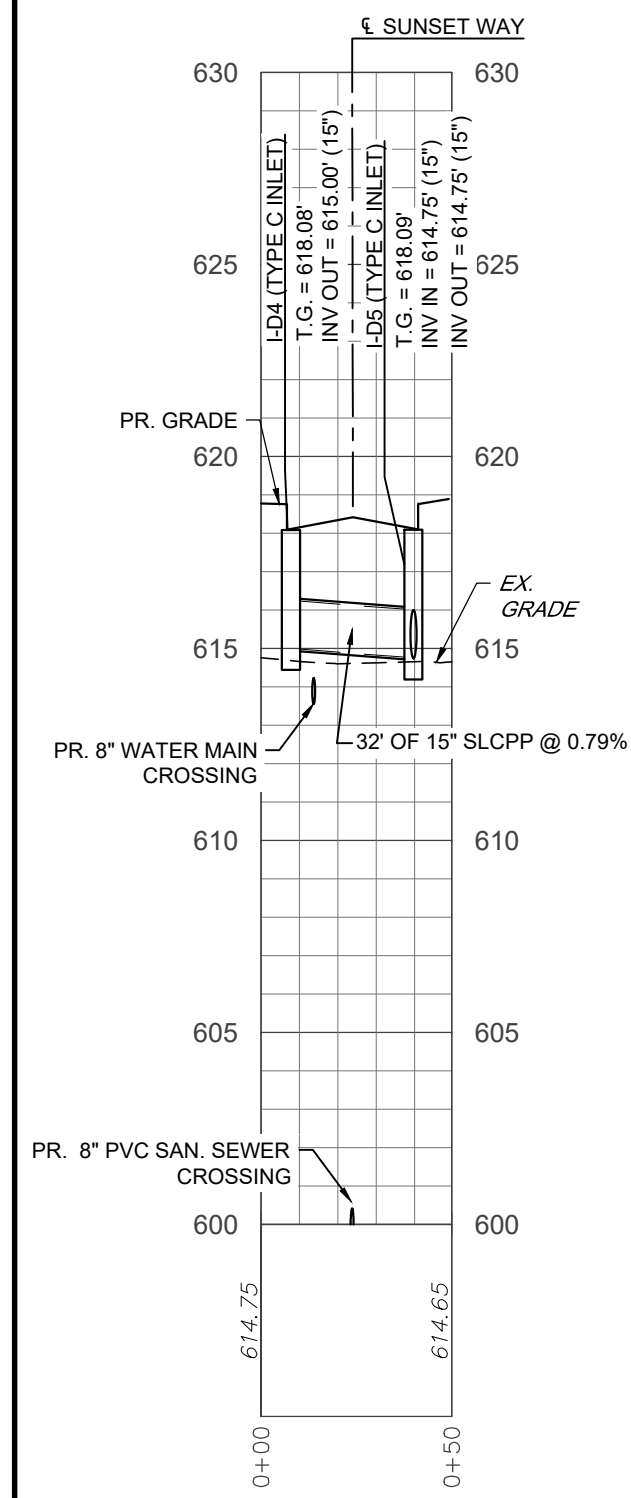


REVISION	DATE	BY
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REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

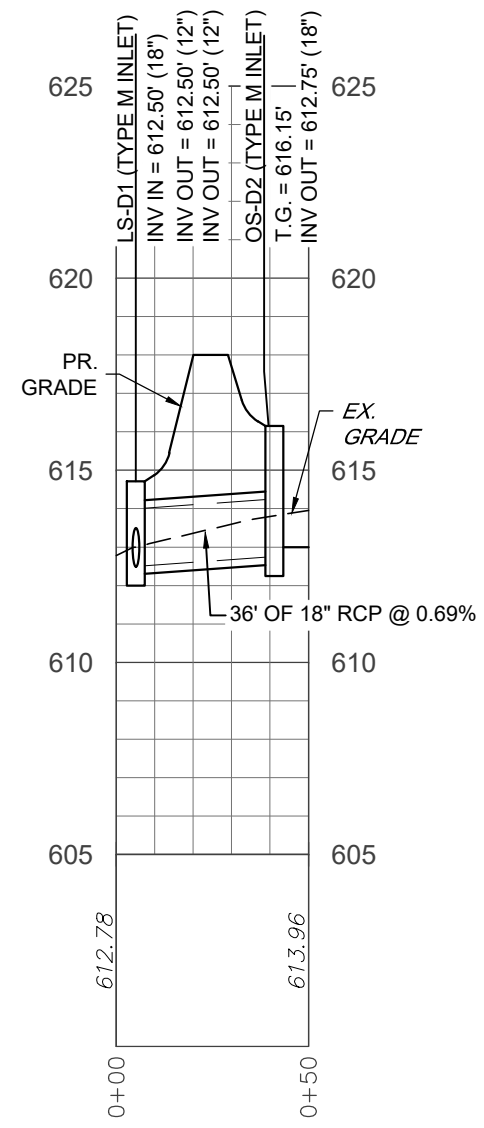
**PROFILES**  
 For  
**PRELIMINARY SUBDIVISION**  
**THE ESTATES AT HEARTHSE**  
located in  
 NORTH LEBANON TOWNSHIP  
 Lebanon County, Pennsylvania



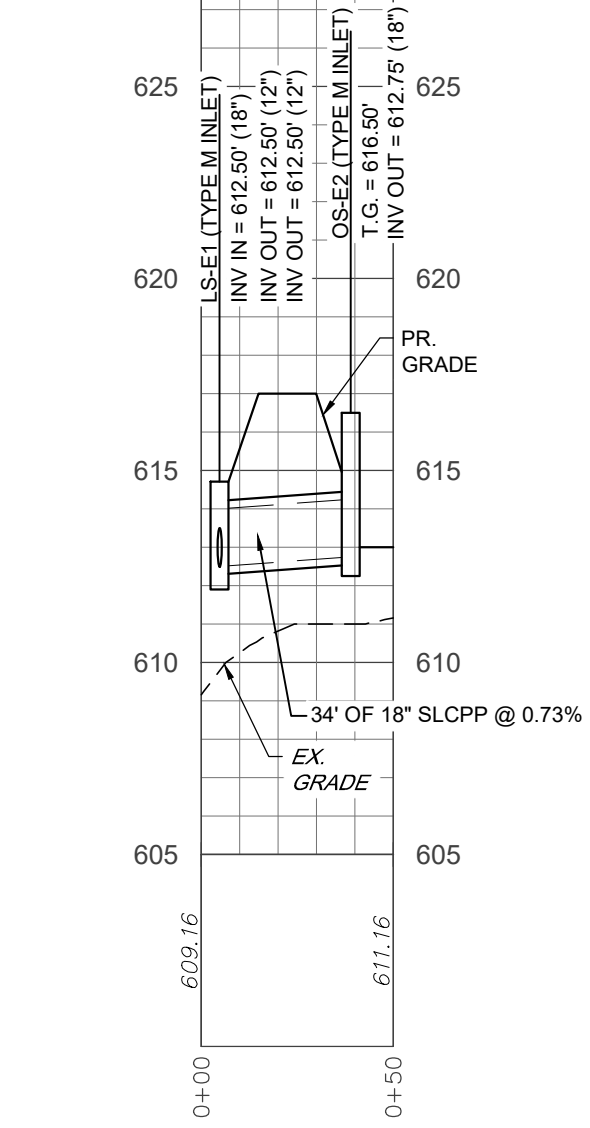
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BASE MAP:	JEC
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CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=50'
PROJECT #	784-22-001



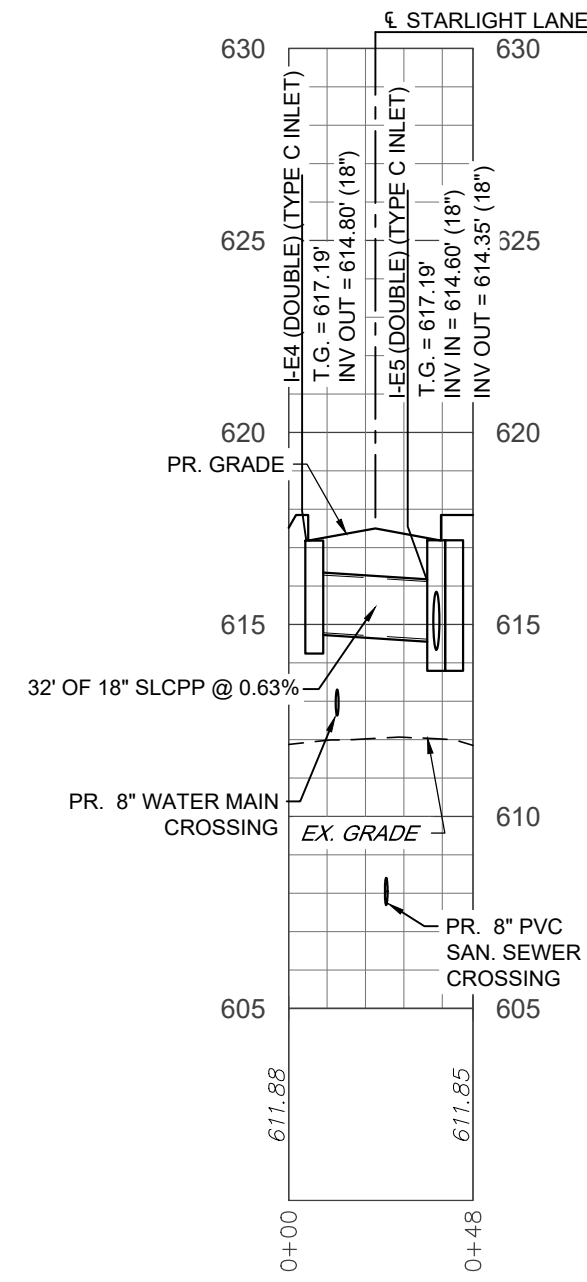
STORMWATER - EW-D3 TO I-D5



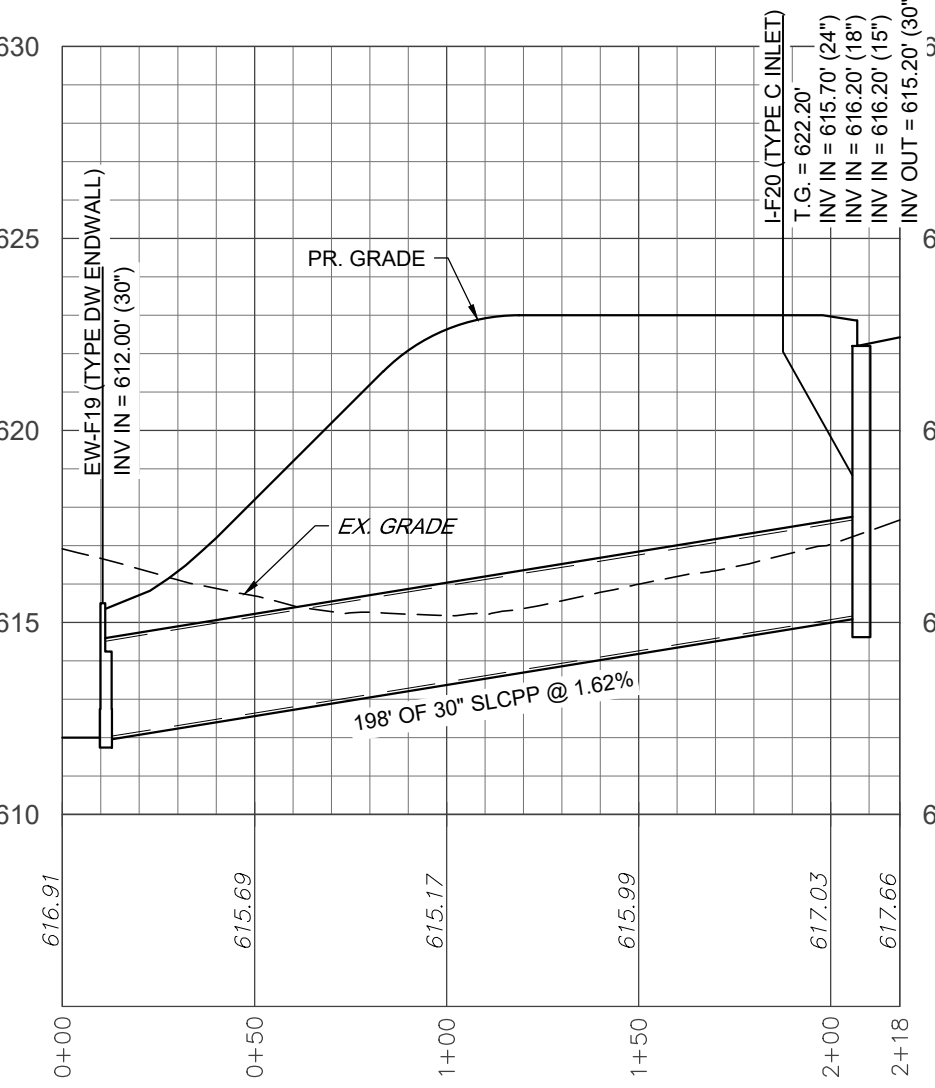
STORMWATER - LS-D1 TO OS-D2



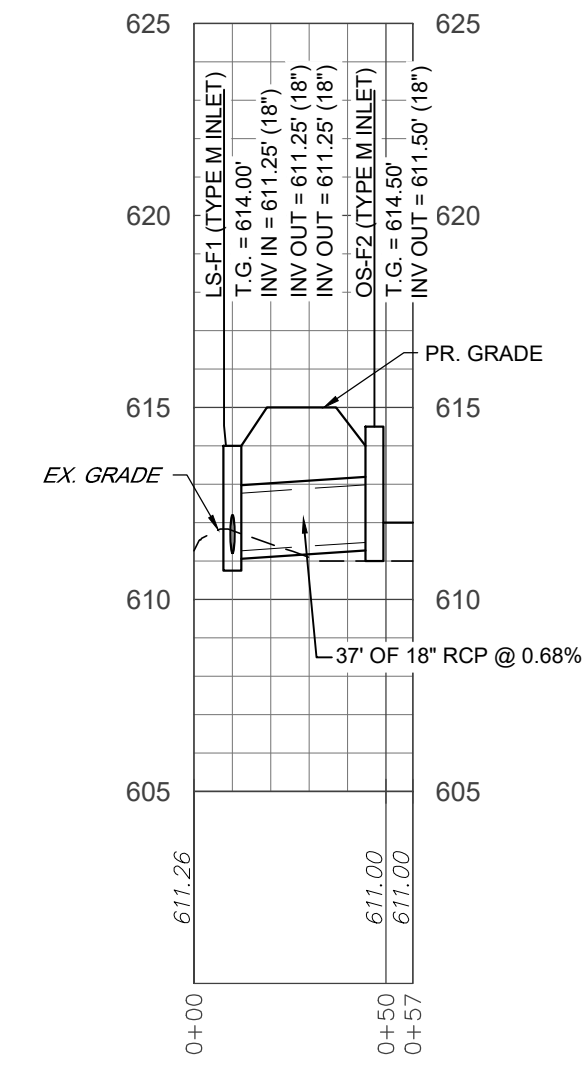
STORMWATER - EW-E1 TO OS-E2



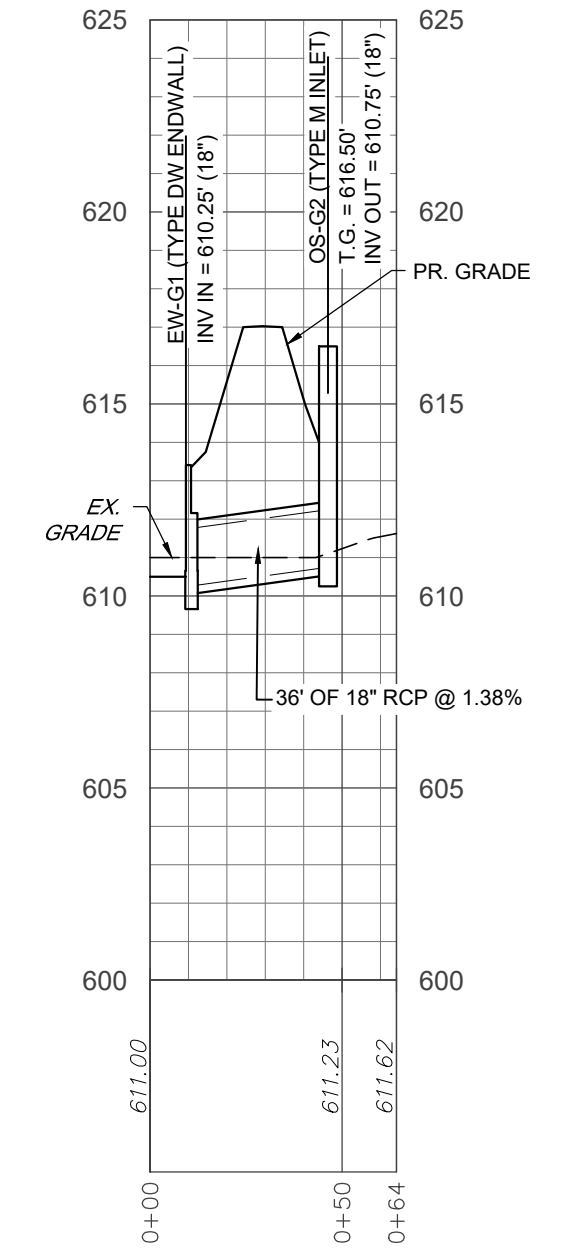
STORMWATER - I-E4 TO I-E5



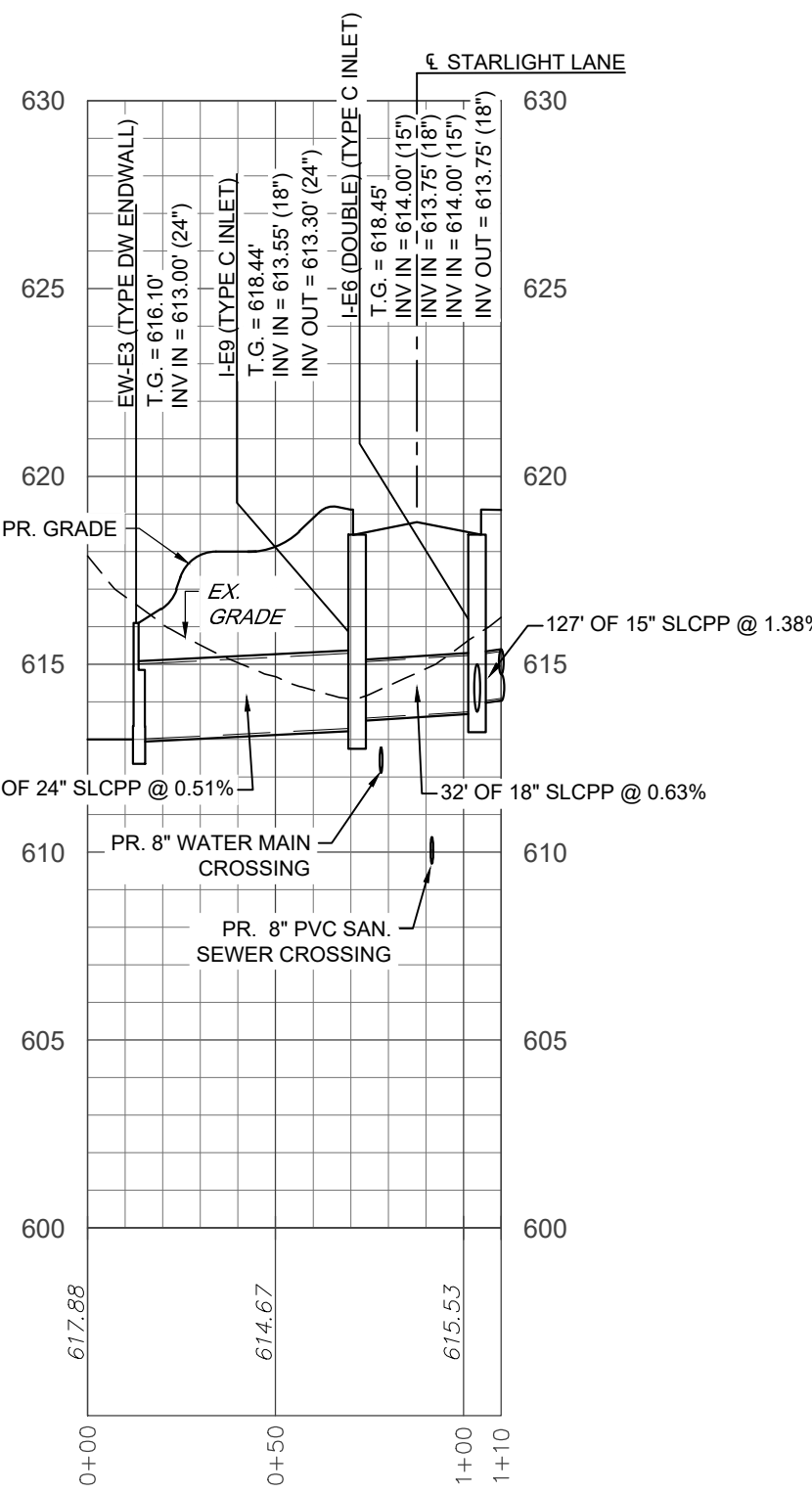
STORMWATER - EW-F19 TO I-F20



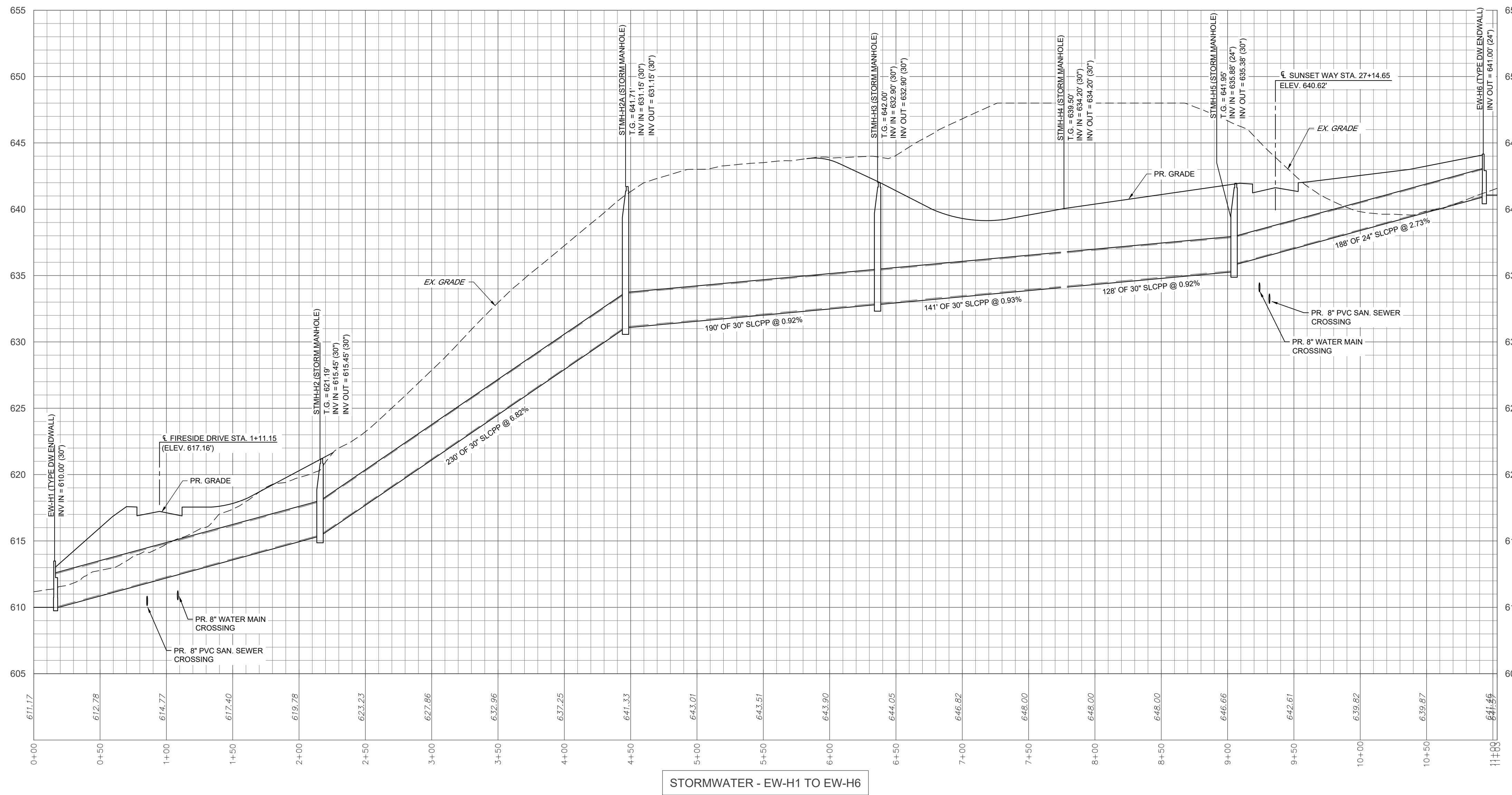
STORMWATER - LS-F1 TO OS-F2



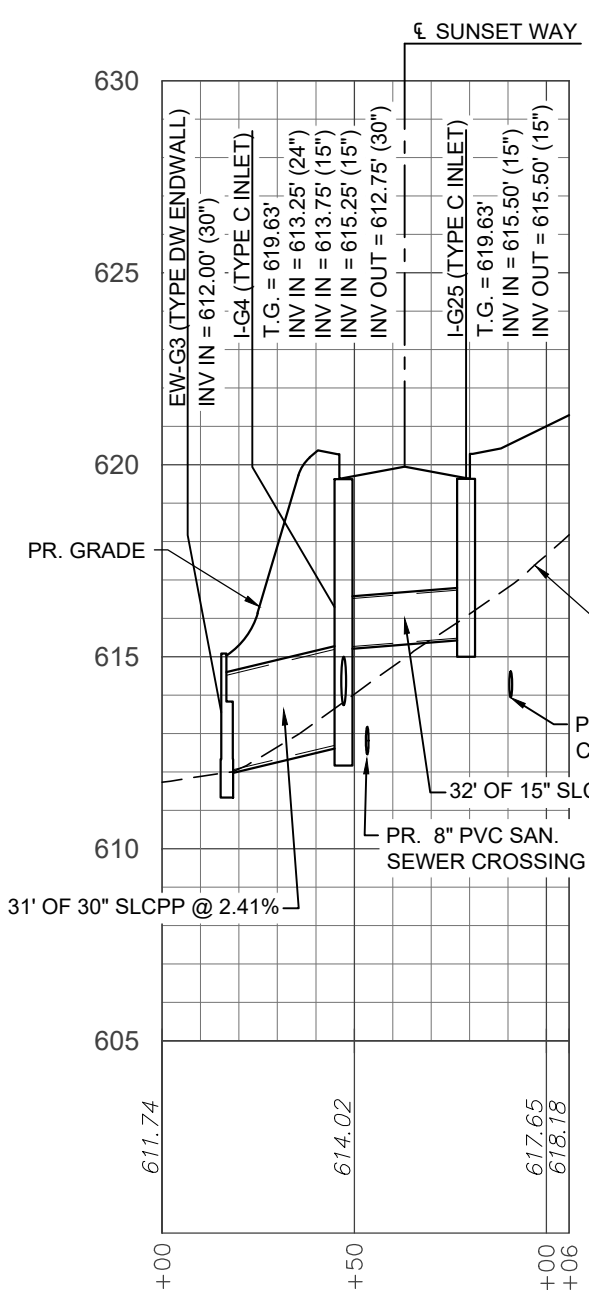
STORMWATER - EW-G1 TO OS-G2



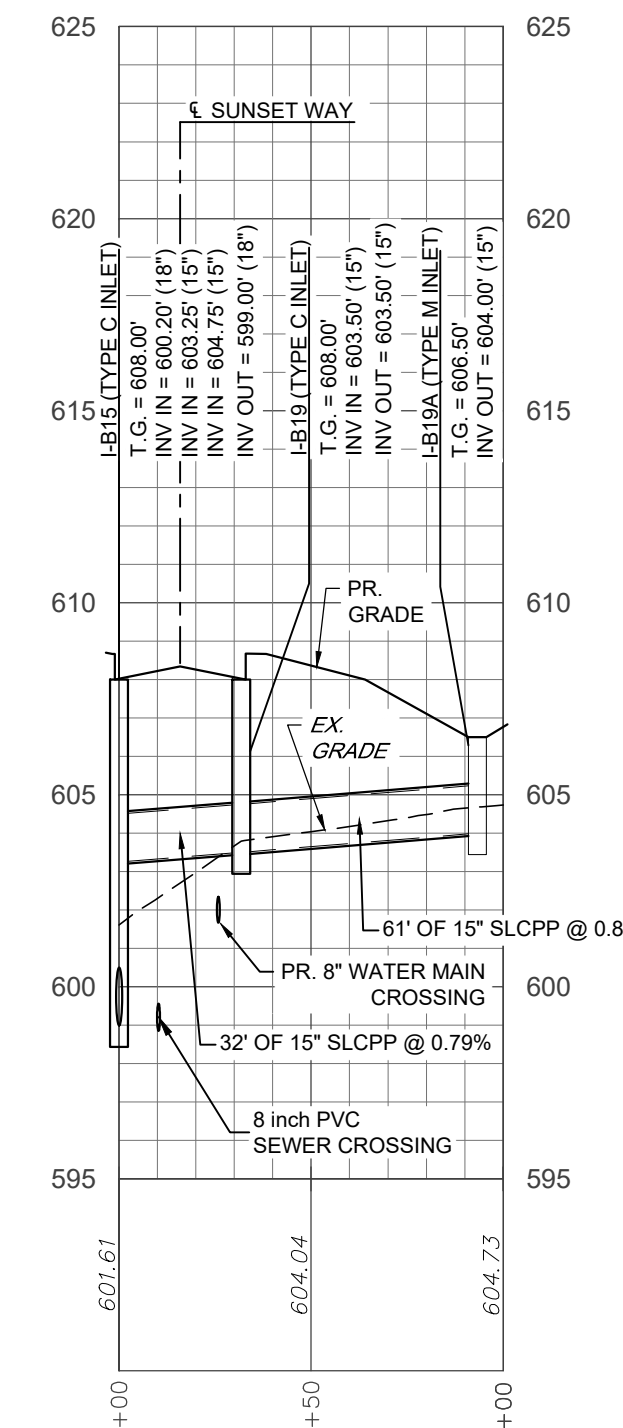
STORMWATER - EW-E3 TO I-E6



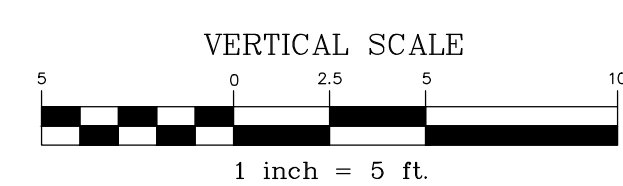
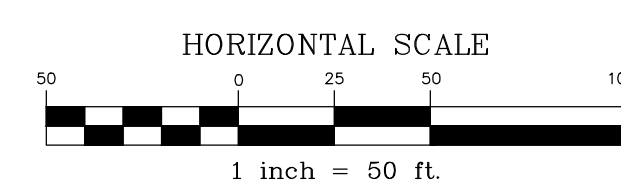
STORMWATER - EW-H1 TO EW-H6



STORMWATER - EW-G3 TO I-G25

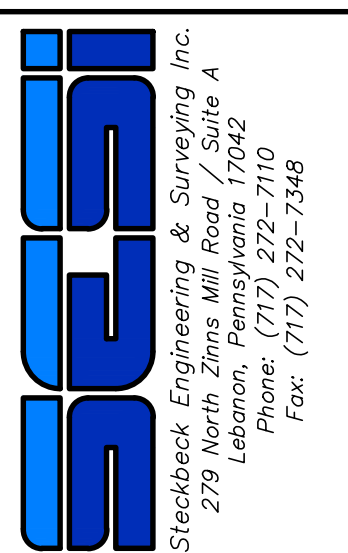


STORMWATER - I-B15 TO I-B19A

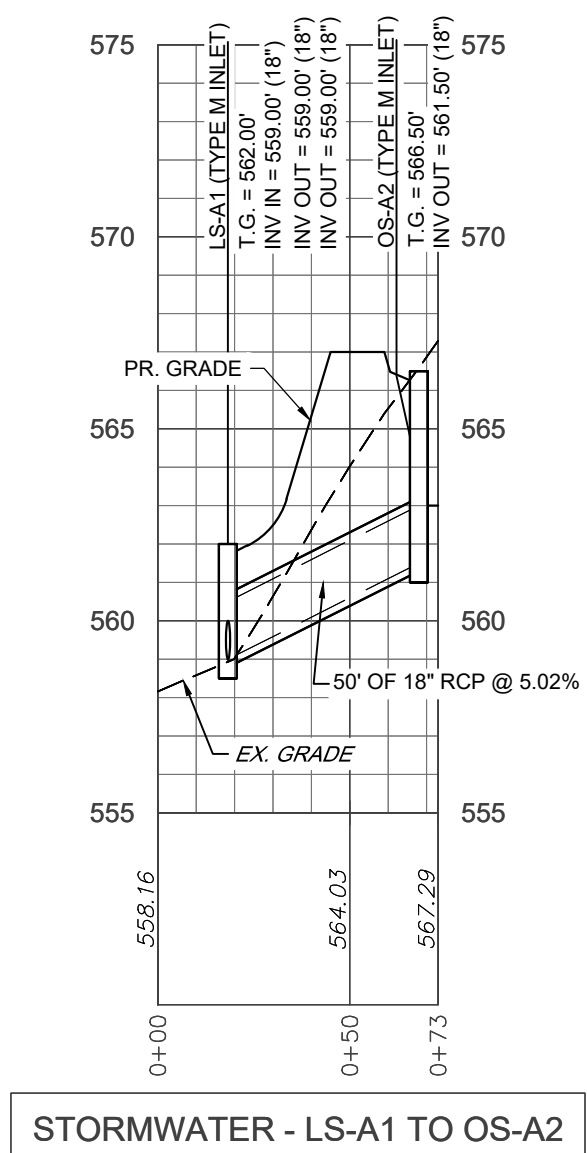
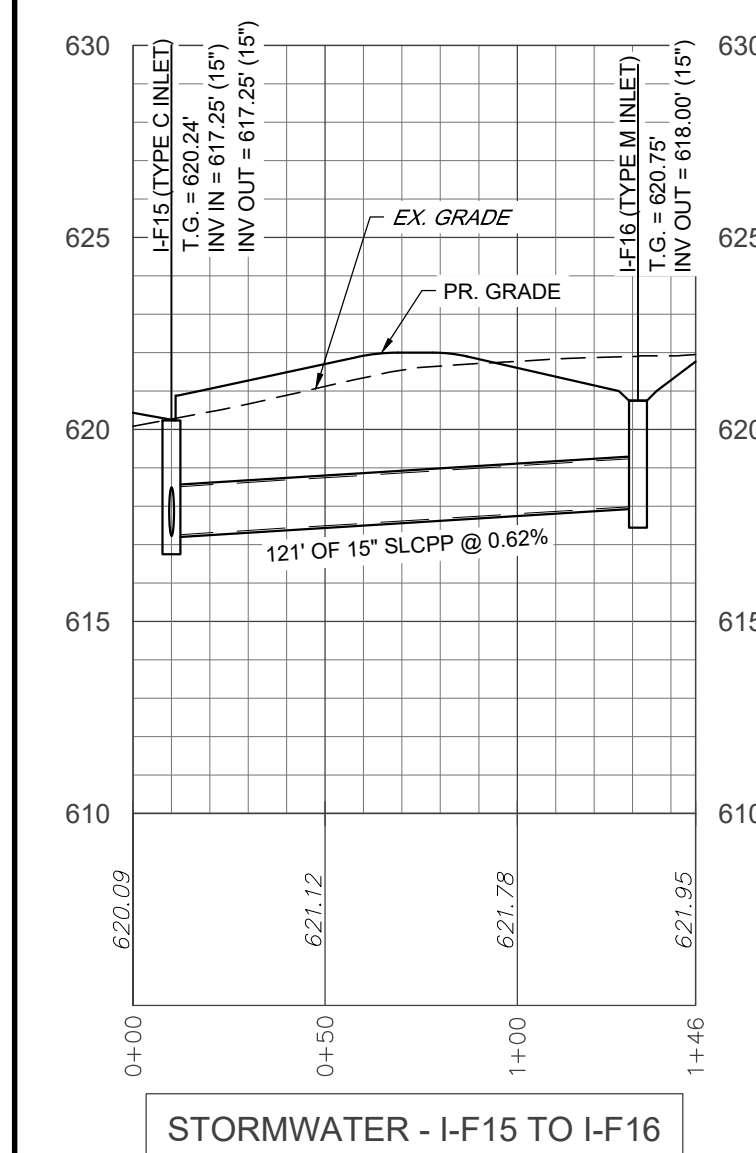
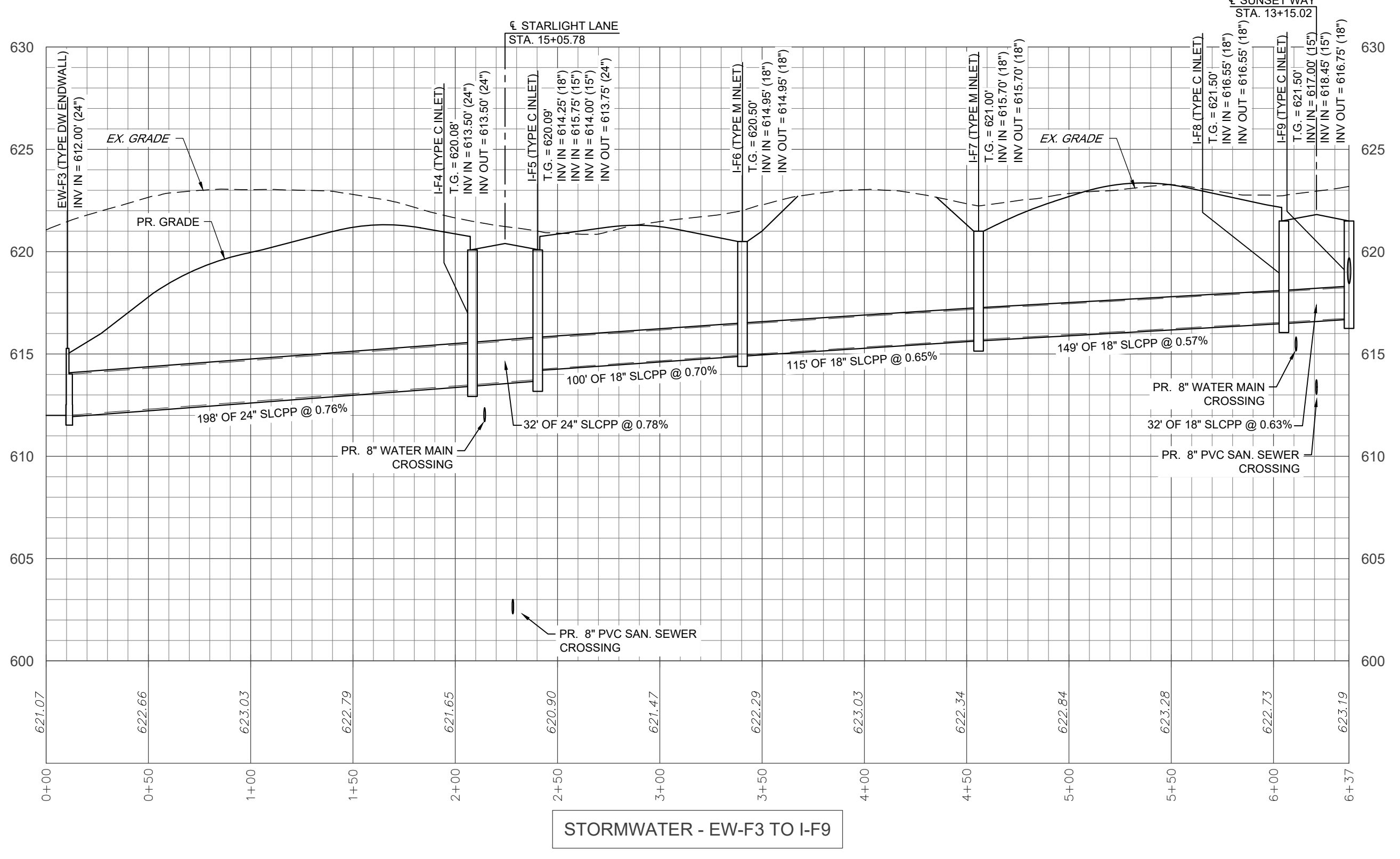
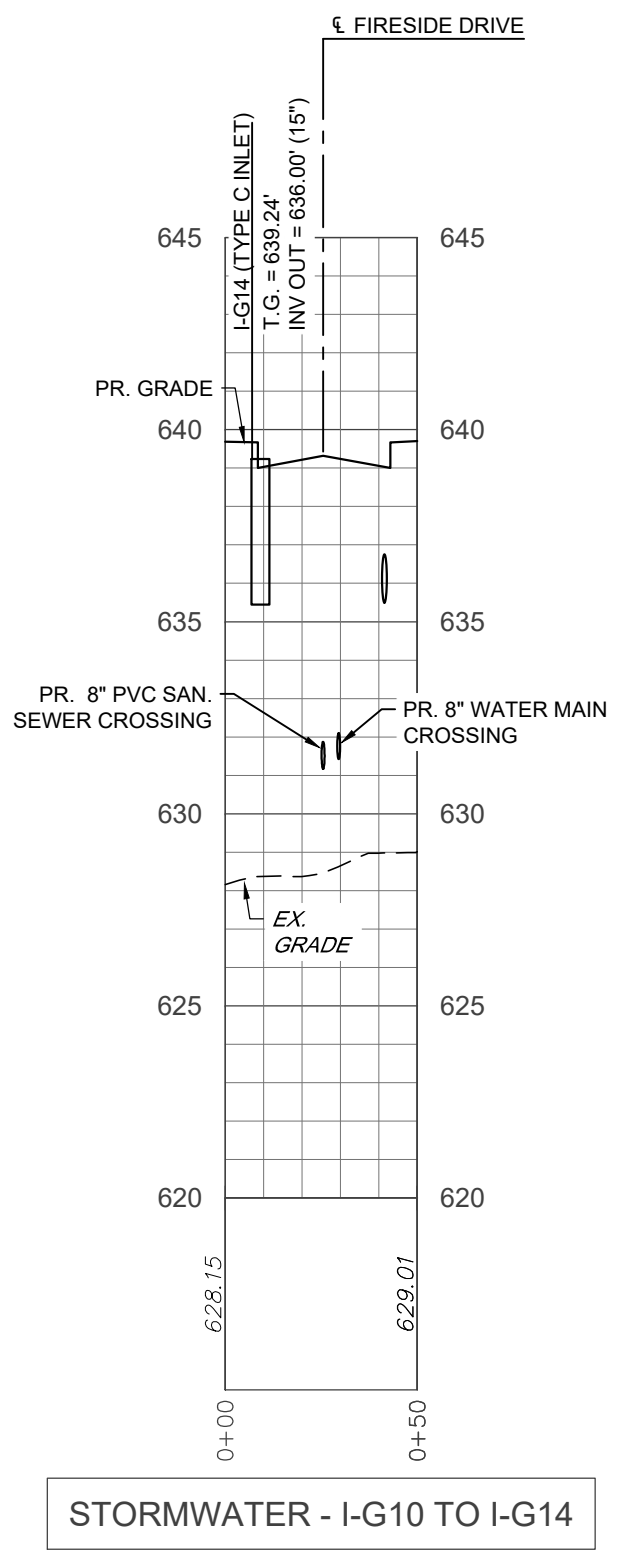
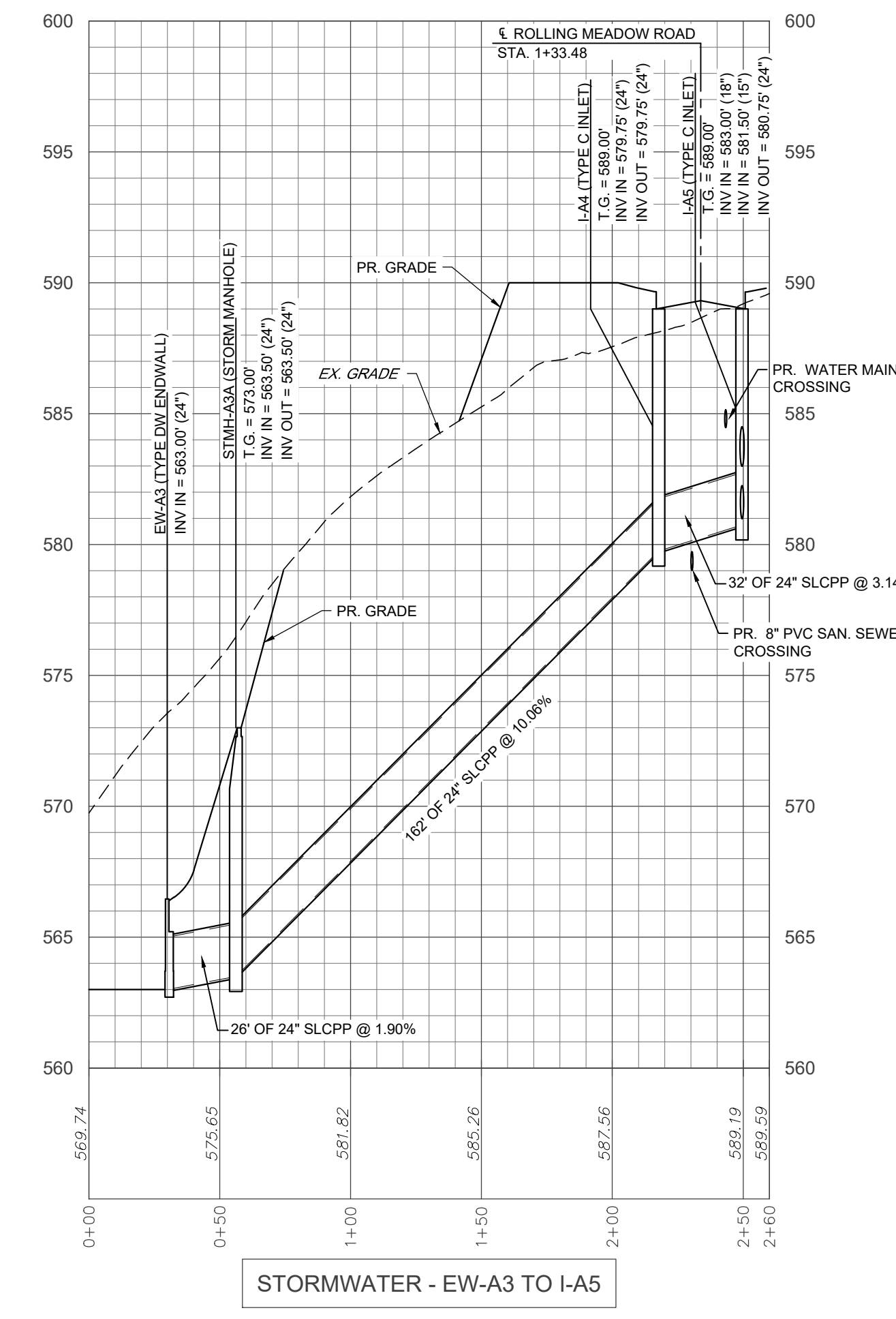
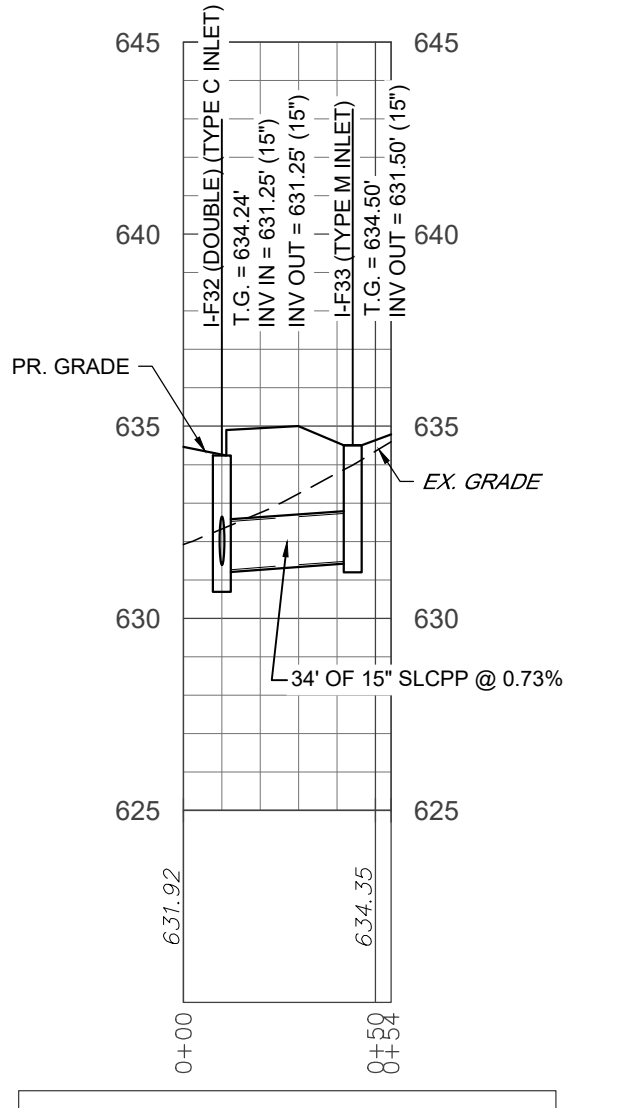
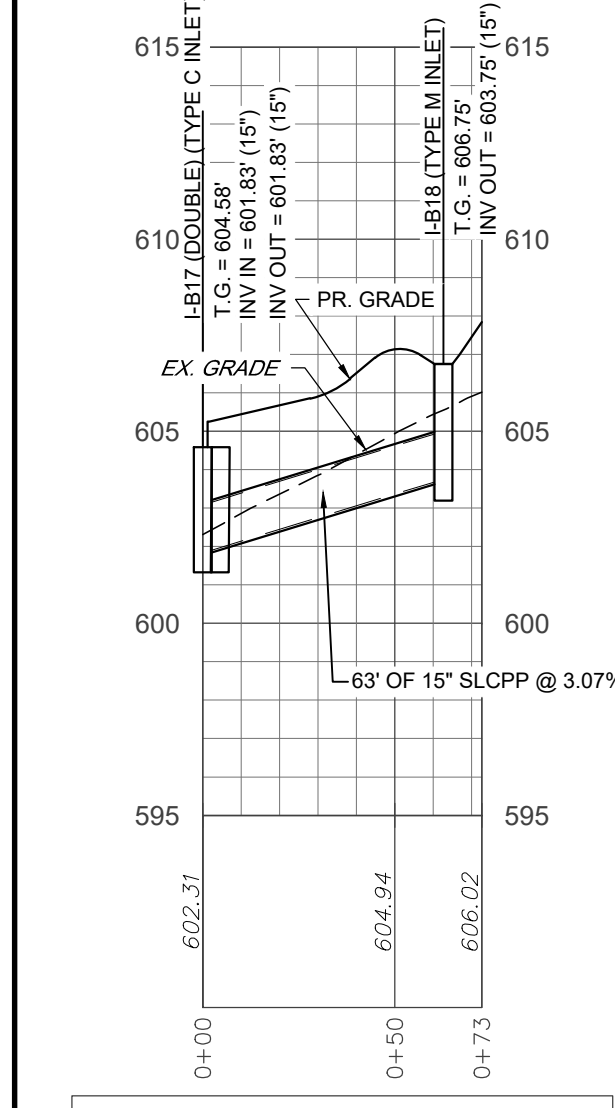
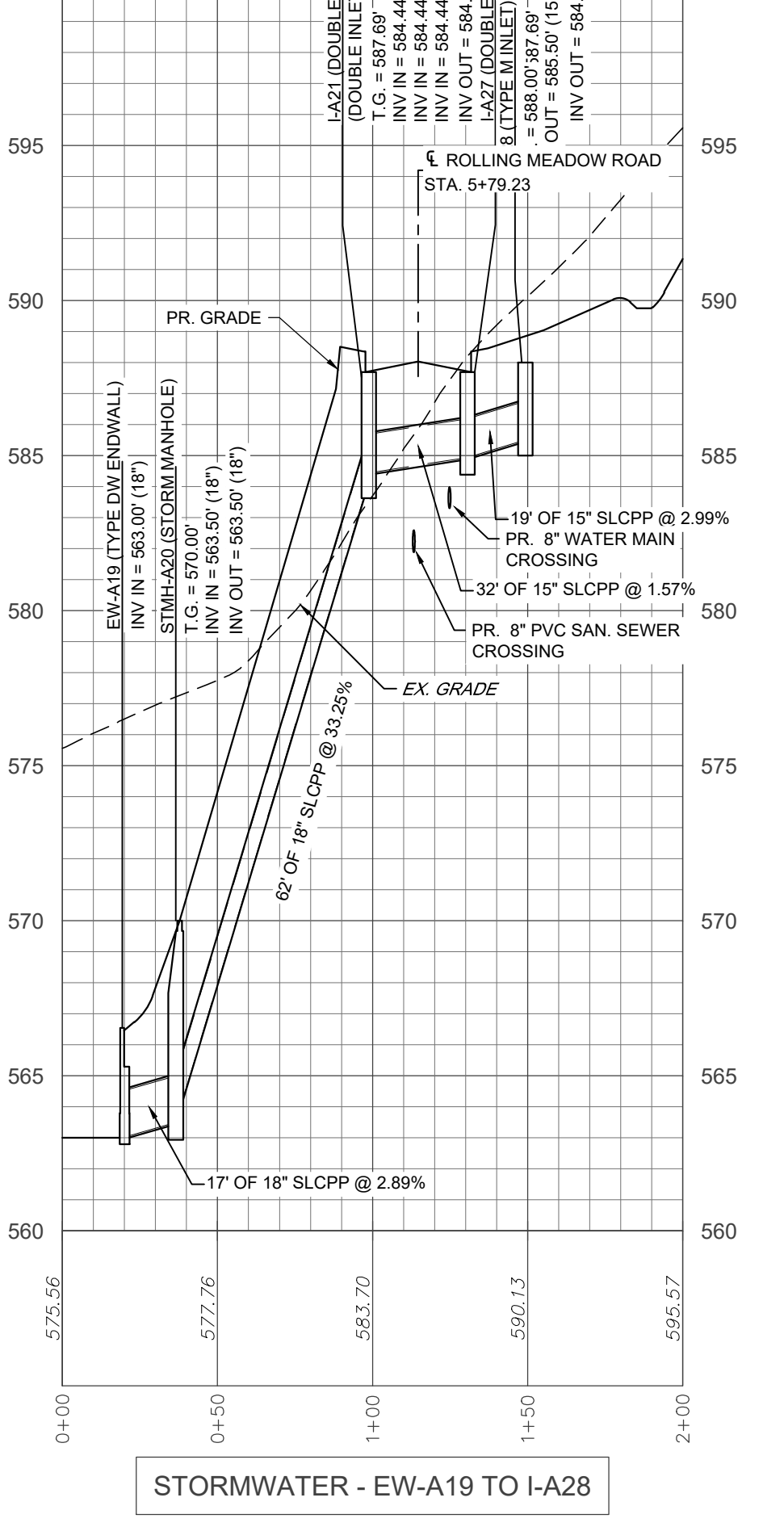
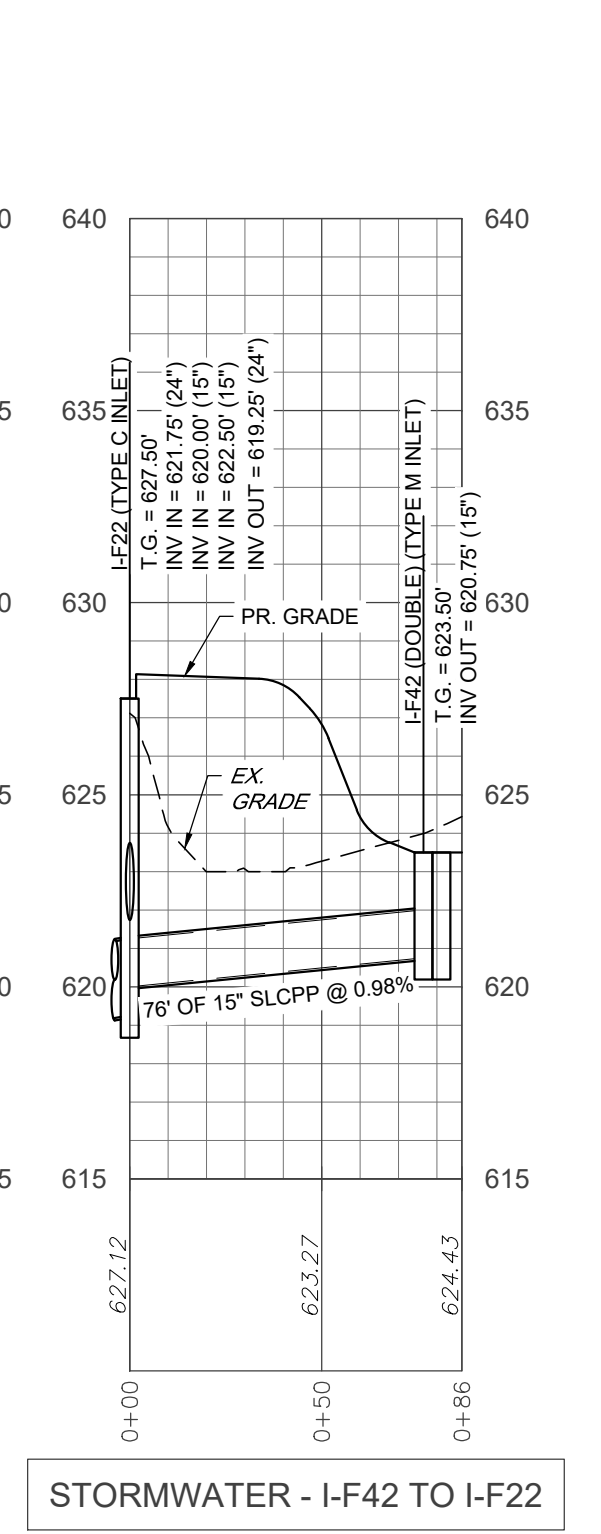
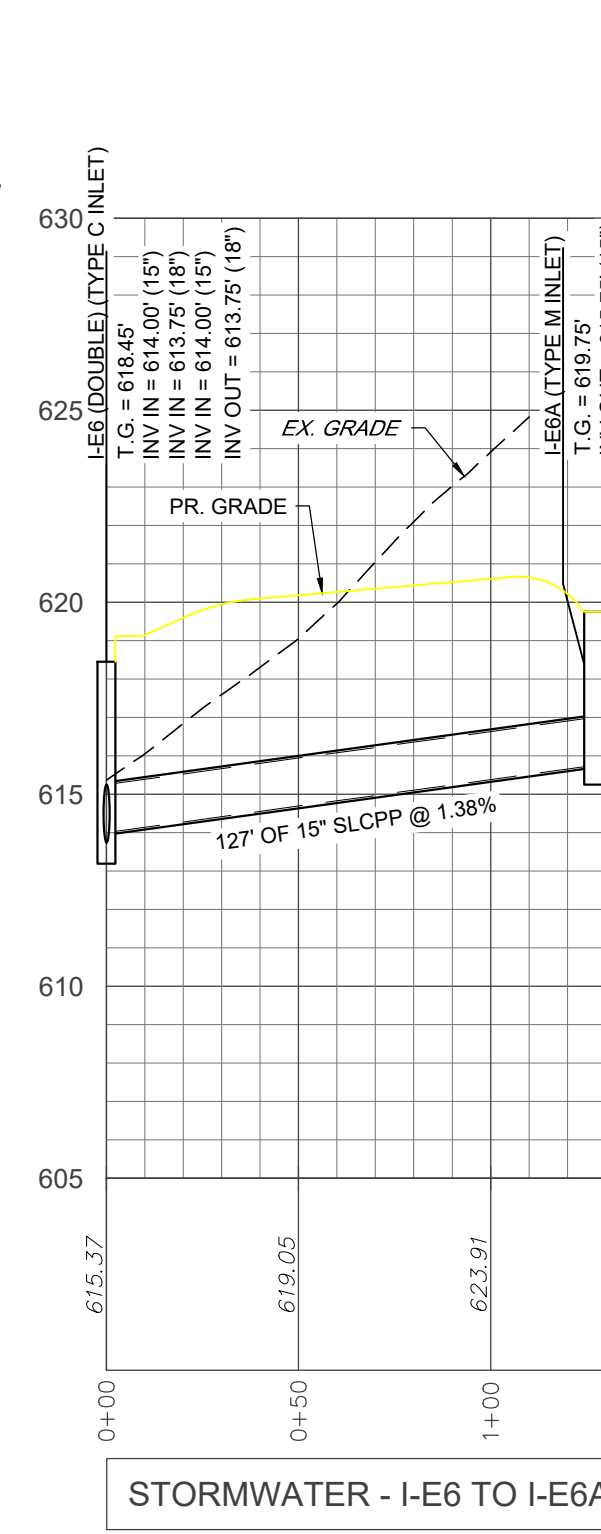
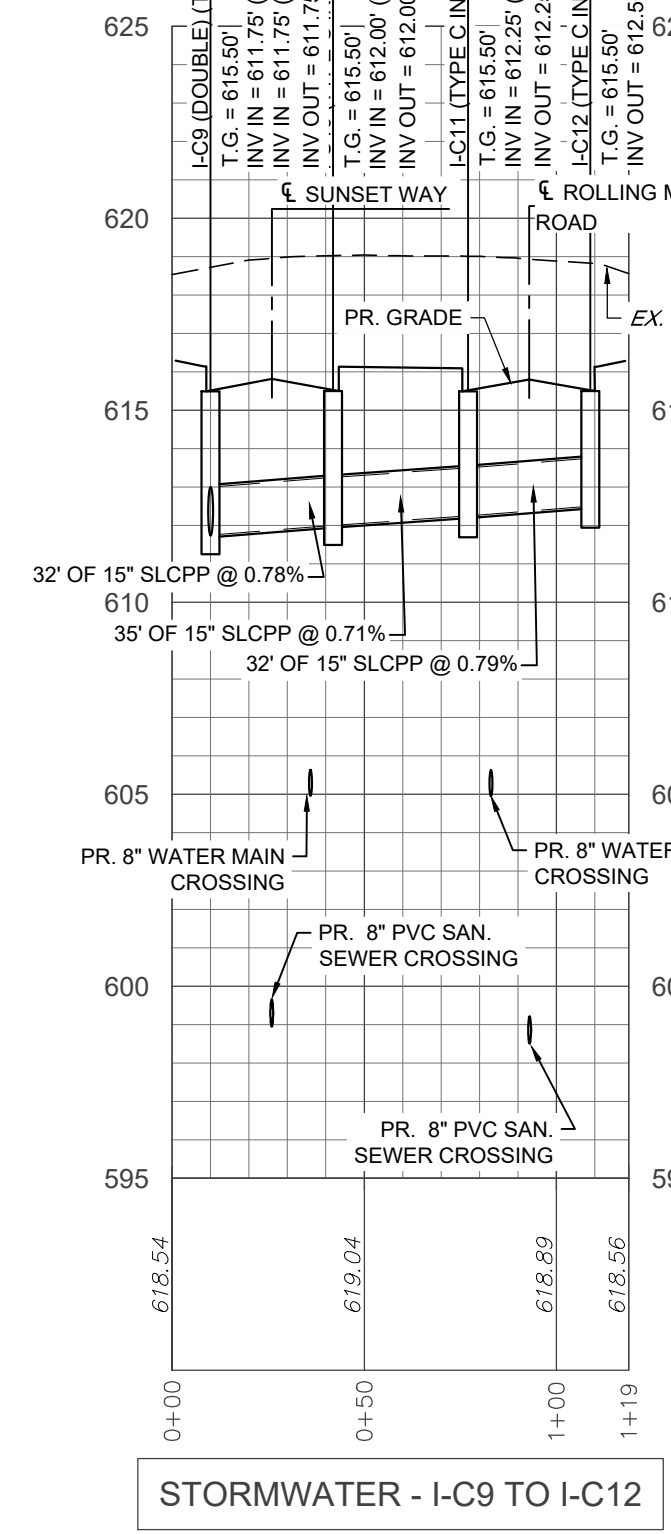
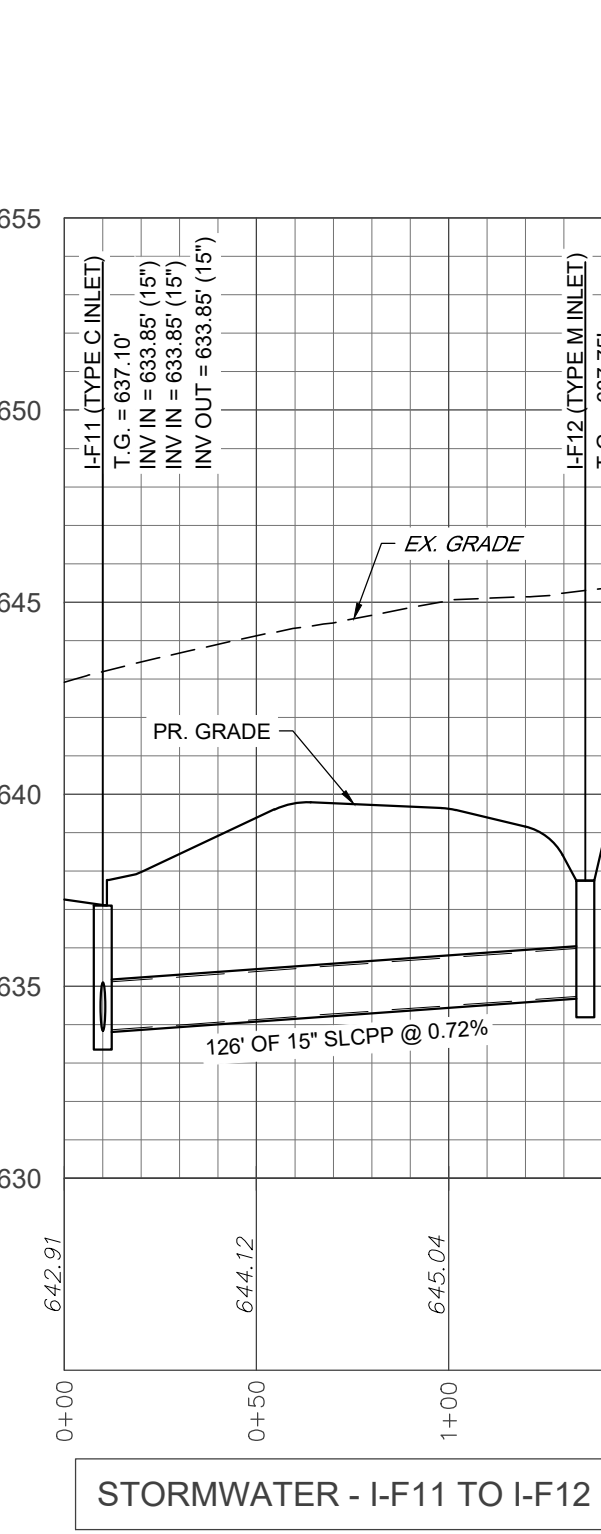
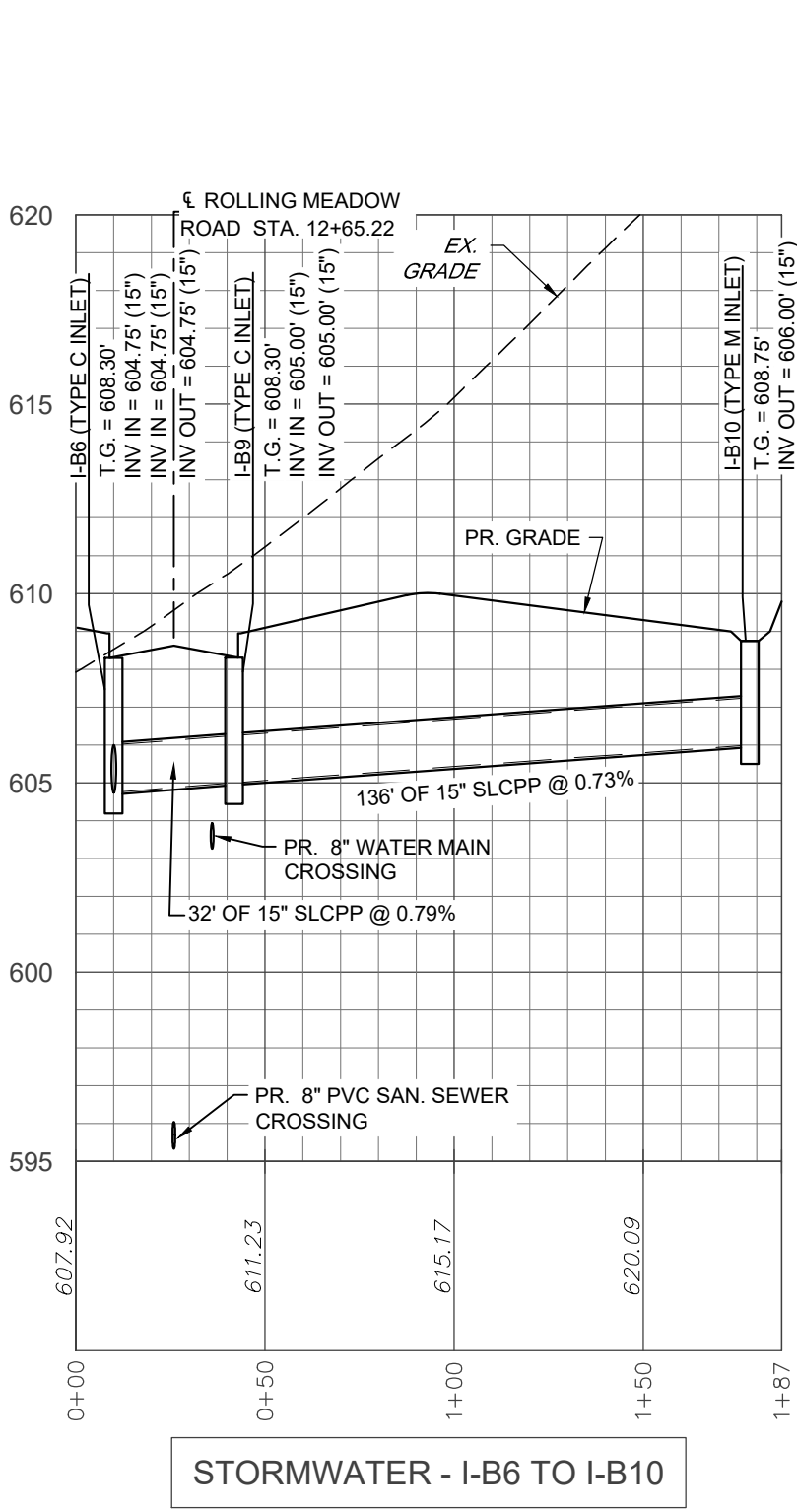
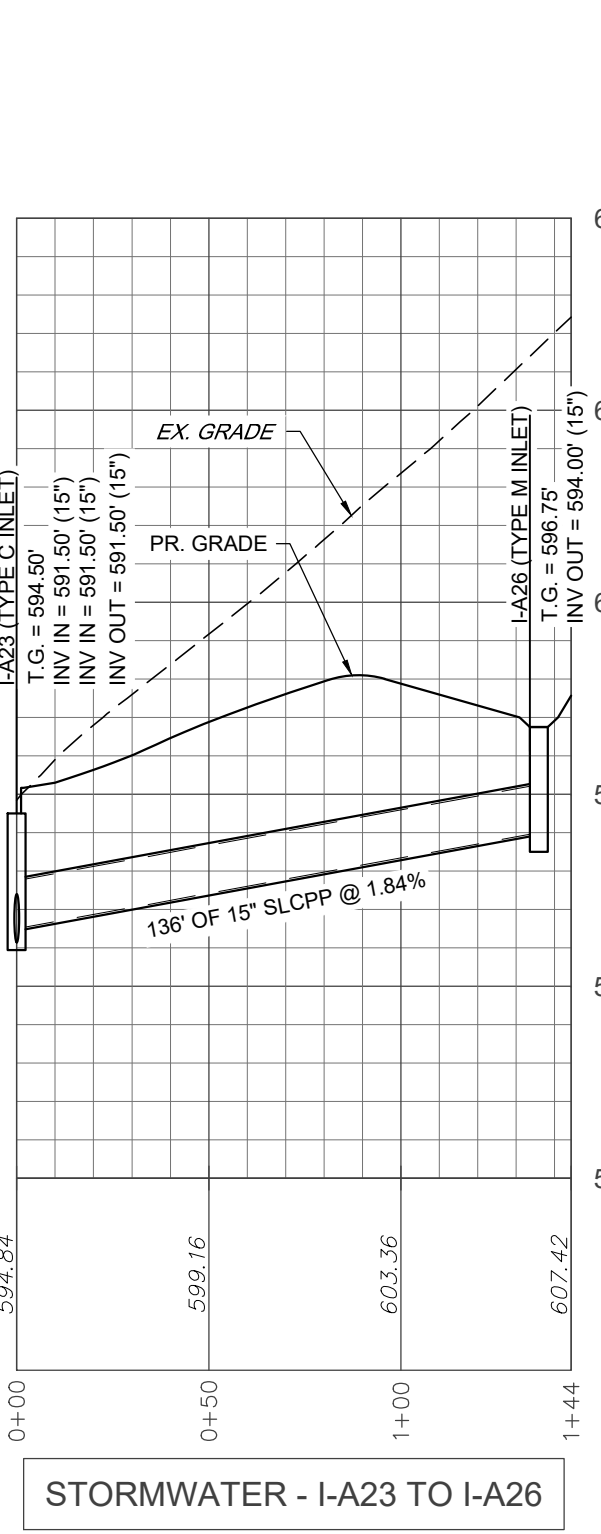
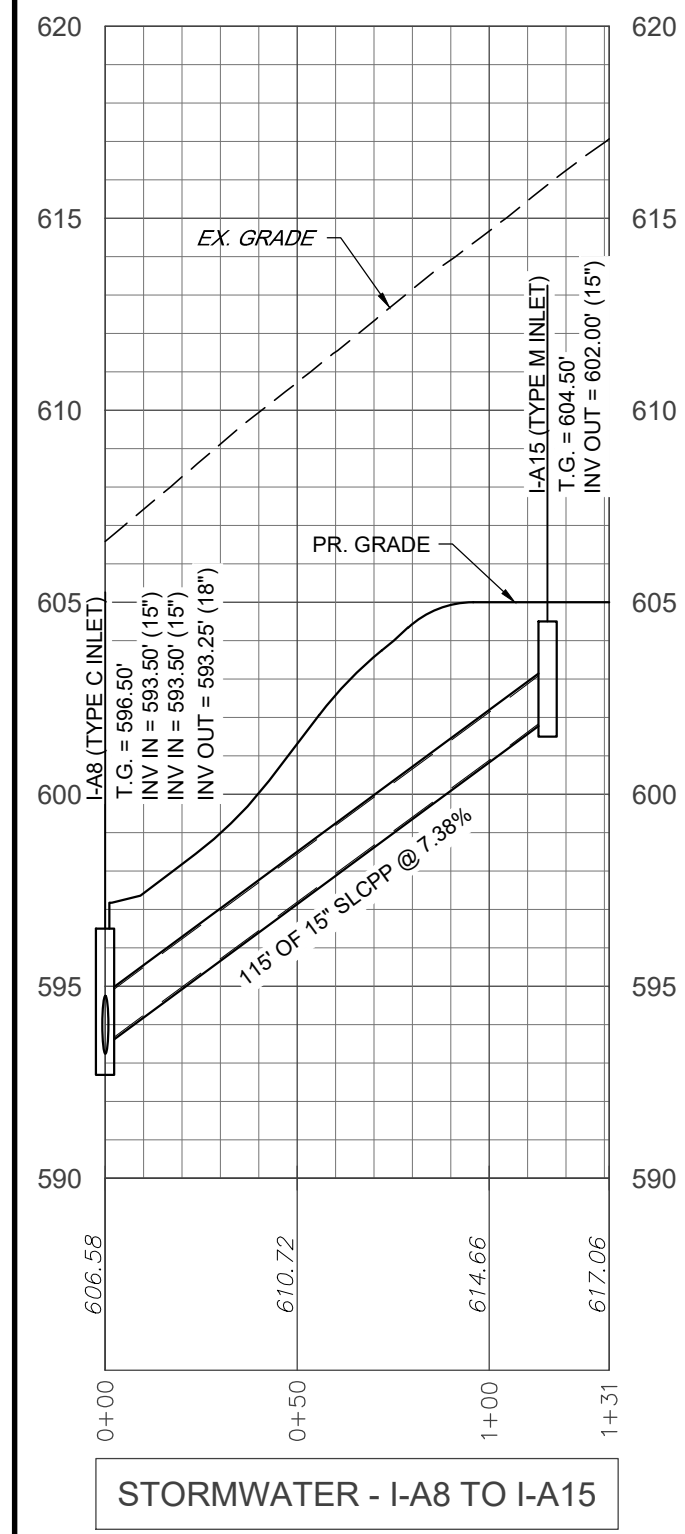


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REVISED PER LCDD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

PROFILES  
 For  
 PRELIMINARY SUBDIVISION  
 THE ESTATES AT HEARTSIDE  
 located in  
 NORTH LEBANON TOWNSHIP  
 Lebanon County, Pennsylvania

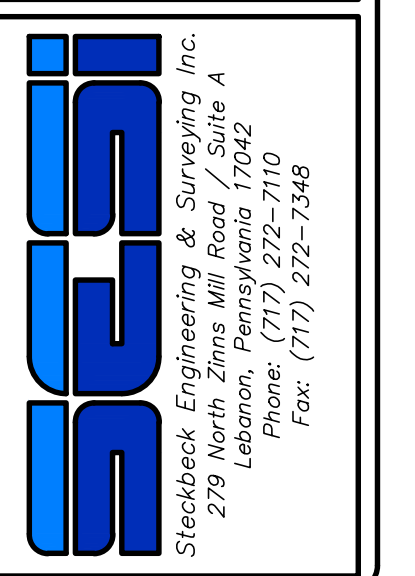


FIELD CREW:	MOO,EC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=50'
PROJECT #	784-22-001

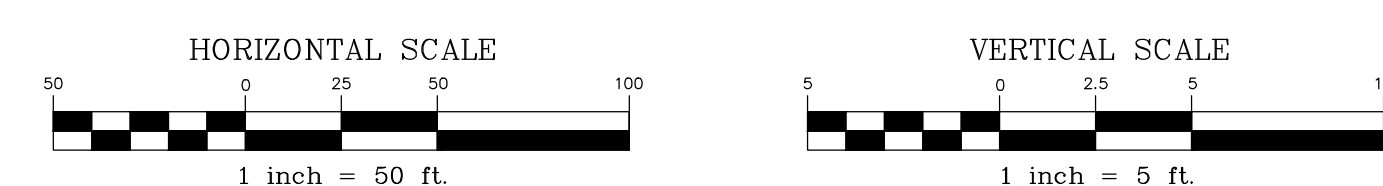


REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
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REVISED PER DEP/LCDD LETTER DATED 5/7/23	7/13/23	CDS/EJG

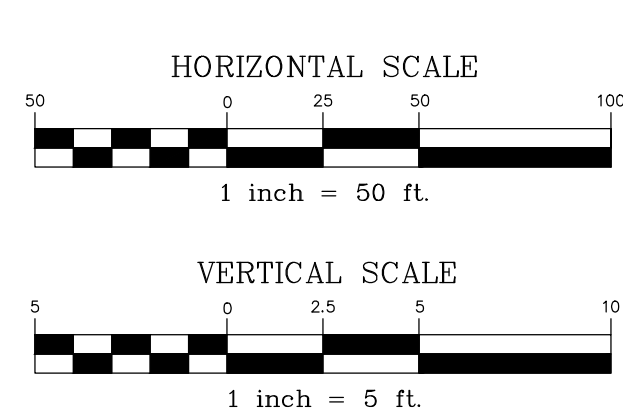
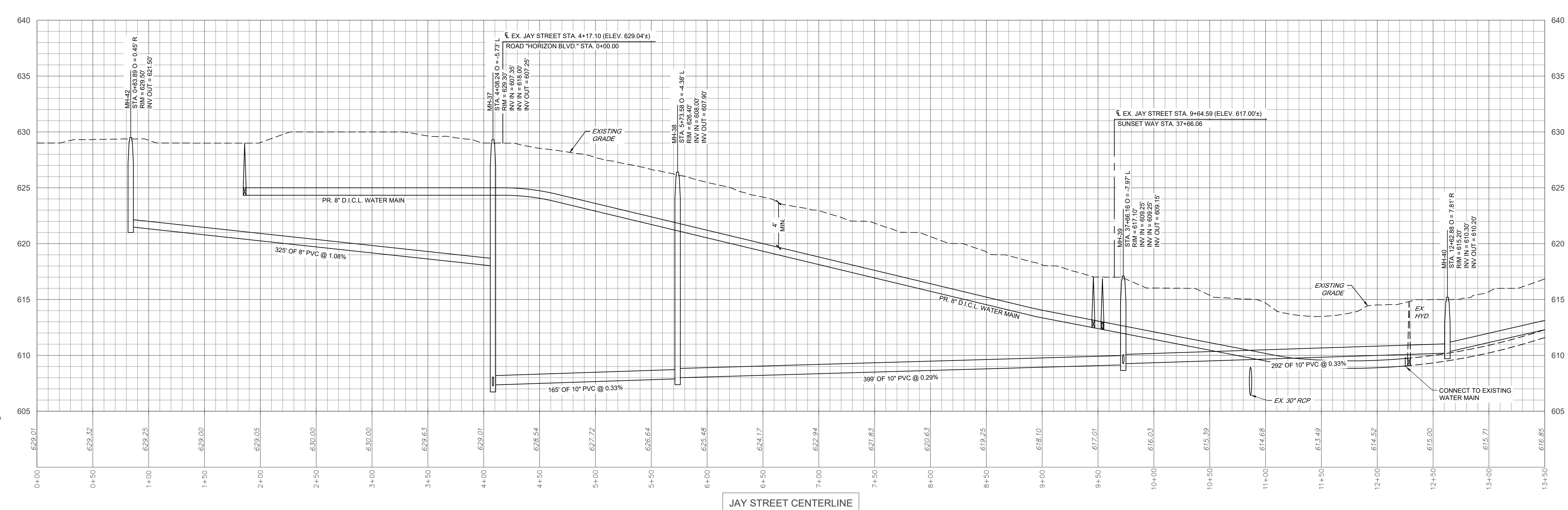
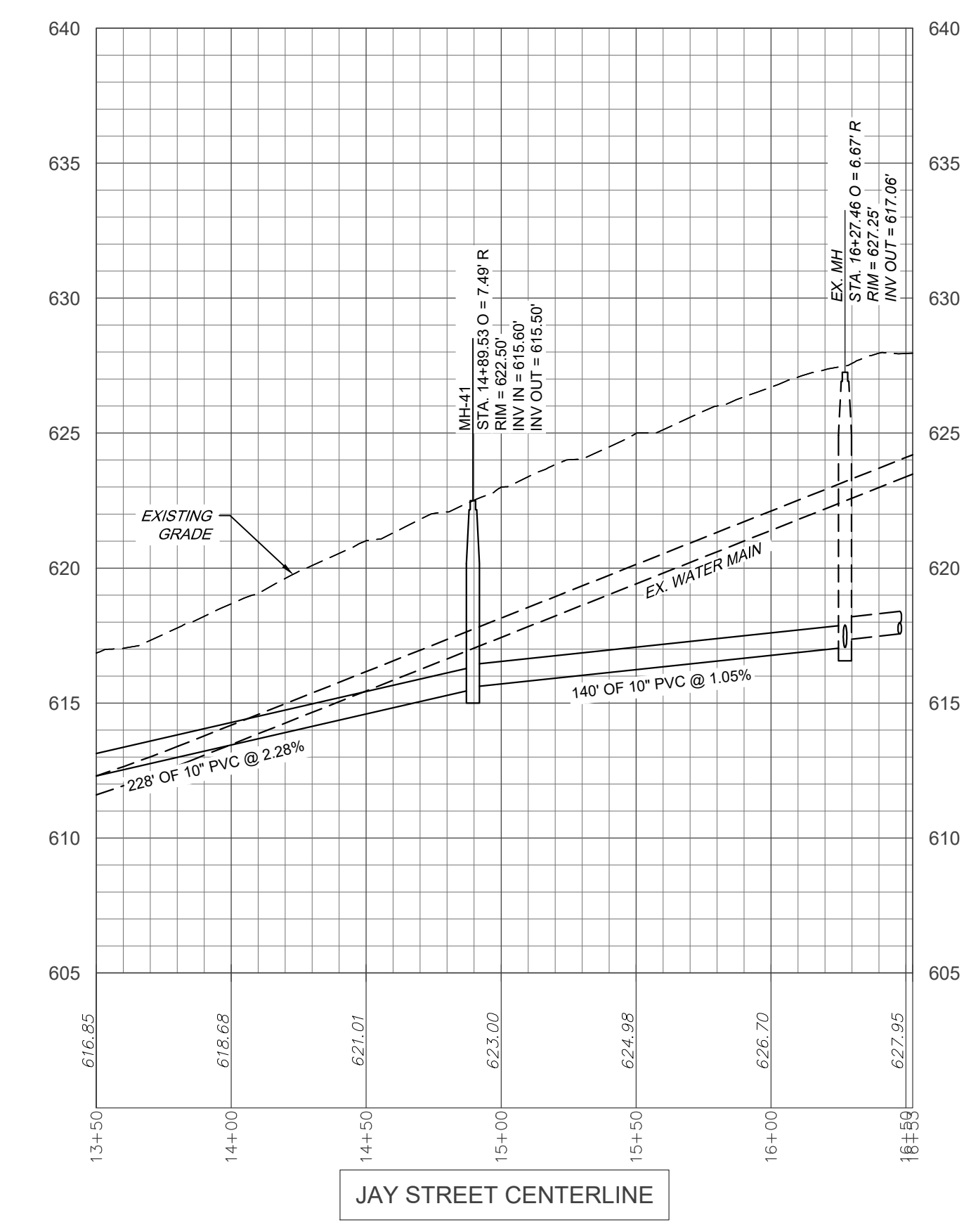
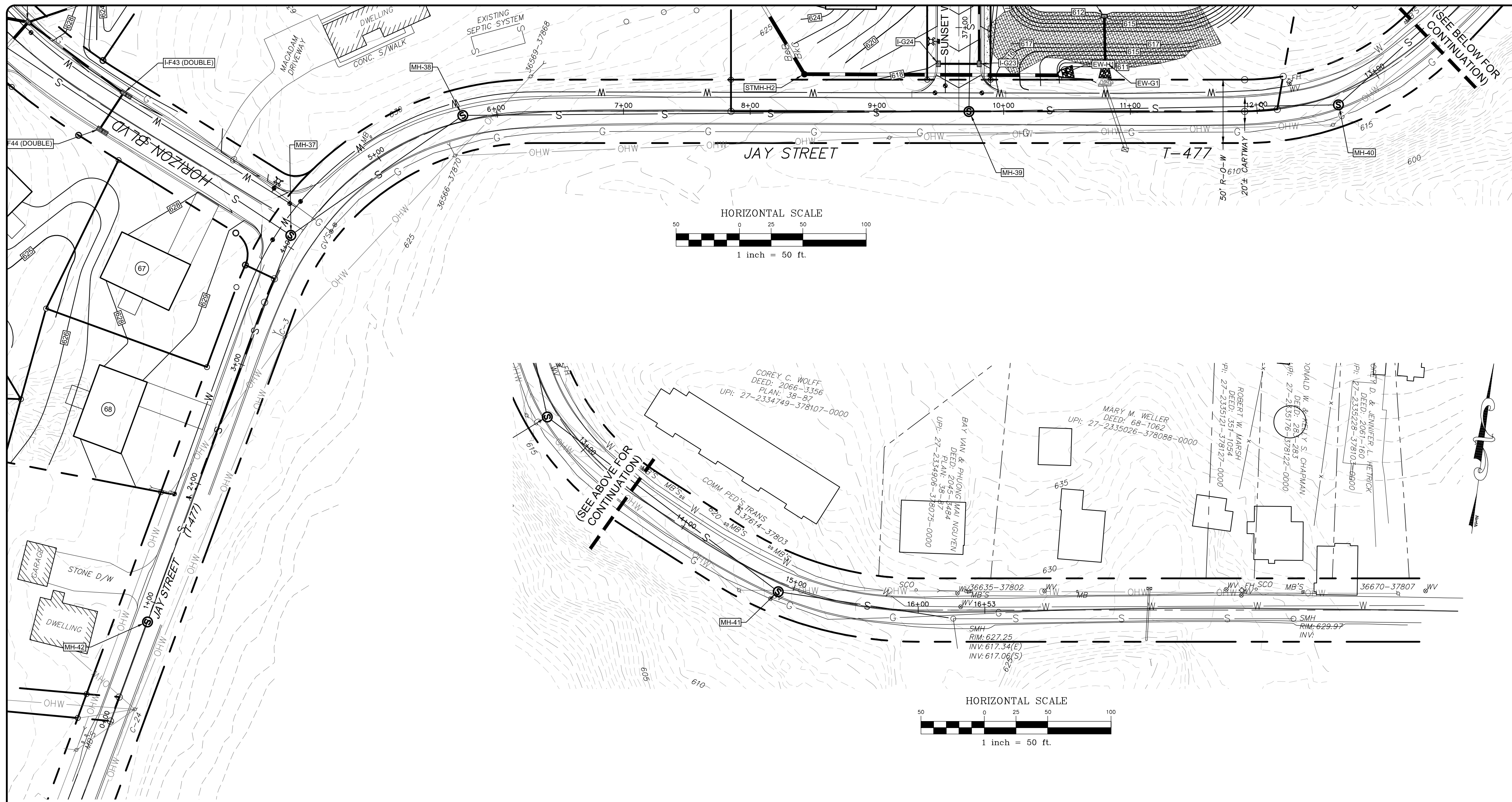
PROFILES  
 For  
 PRELIMINARY SUBDIVISION  
 THE ESTATES AT HEARTHSTONE  
 located in  
 NORTH LEBANON TOWNSHIP  
 Lebanon County, Pennsylvania



FIELD CREW:	MOO, EC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	1"=50'
PROJECT #	784-22-001

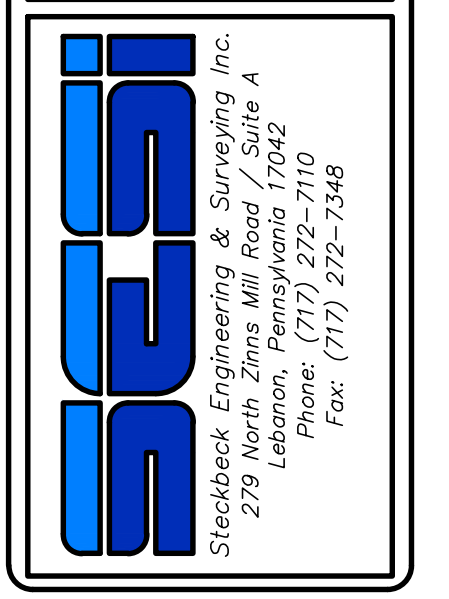




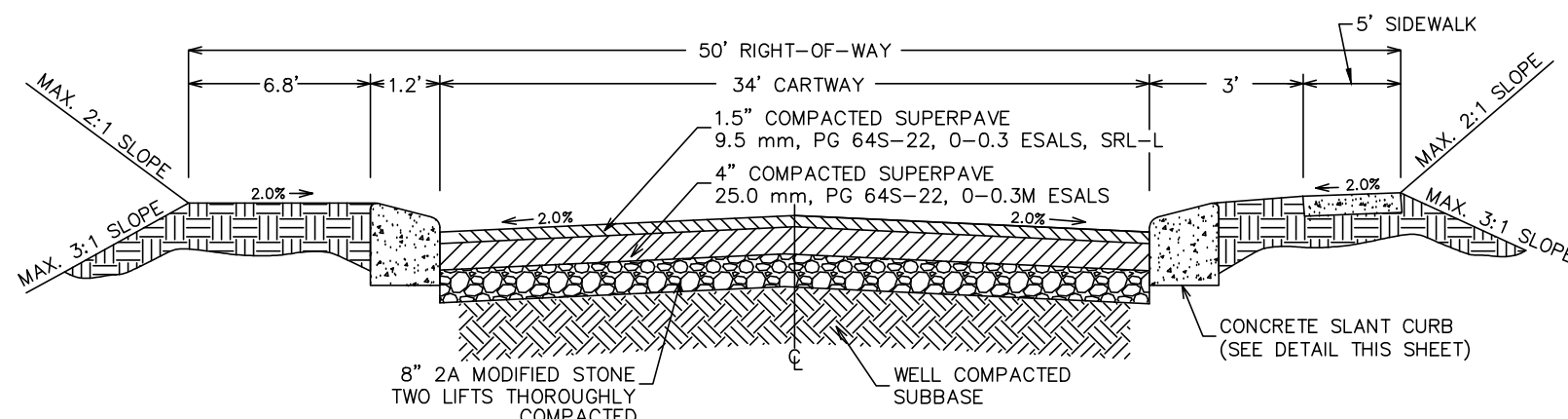


REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPO LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCPO LETTER DATED 5/17/23	7/13/23	CDS/EJG

PROFILES  
 PRELIMINARY SUBDIVISION  
 For  
 THE ESTATES AT HEARTHSE  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

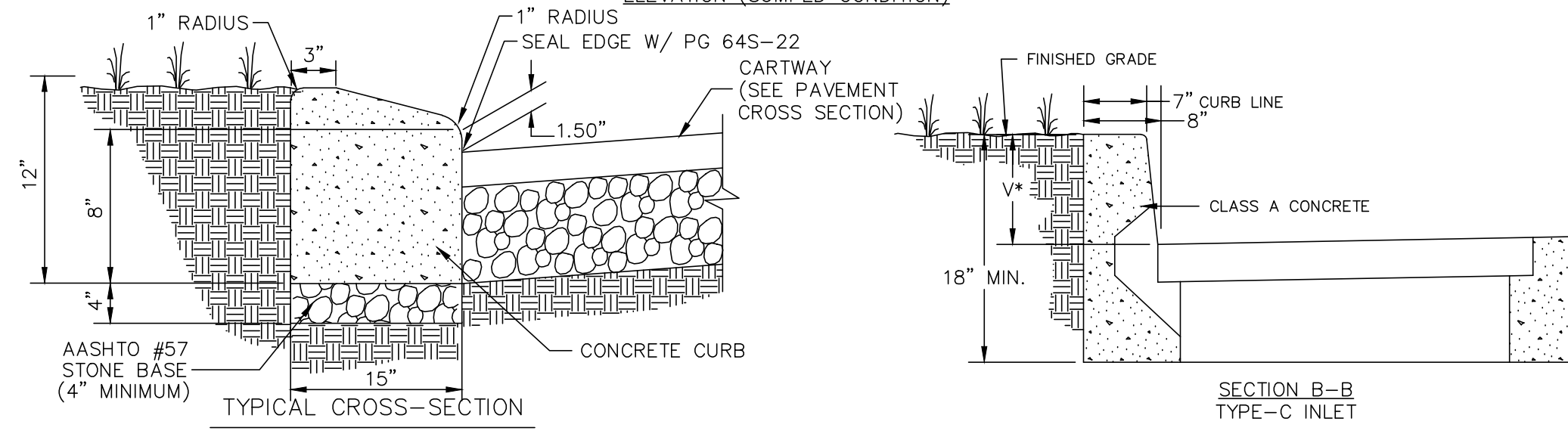
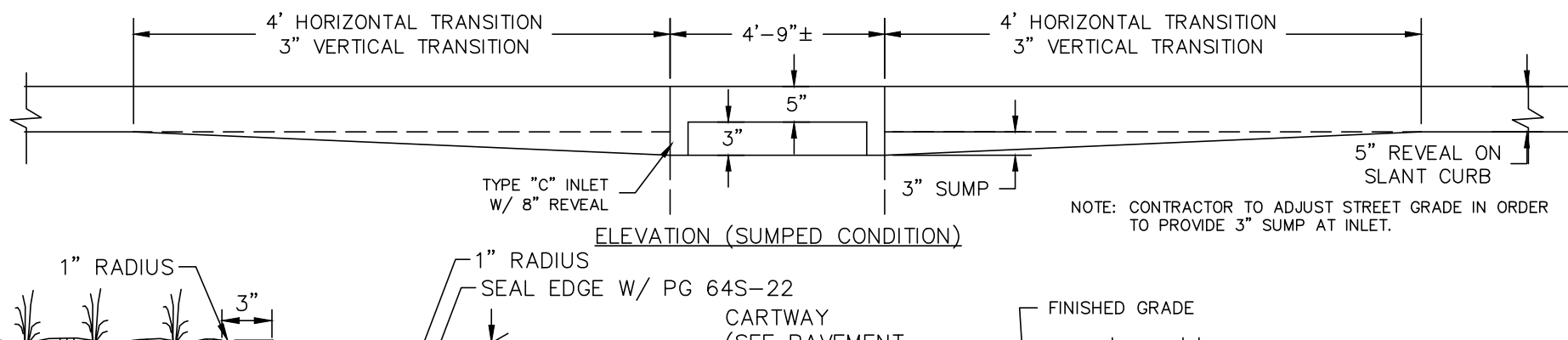
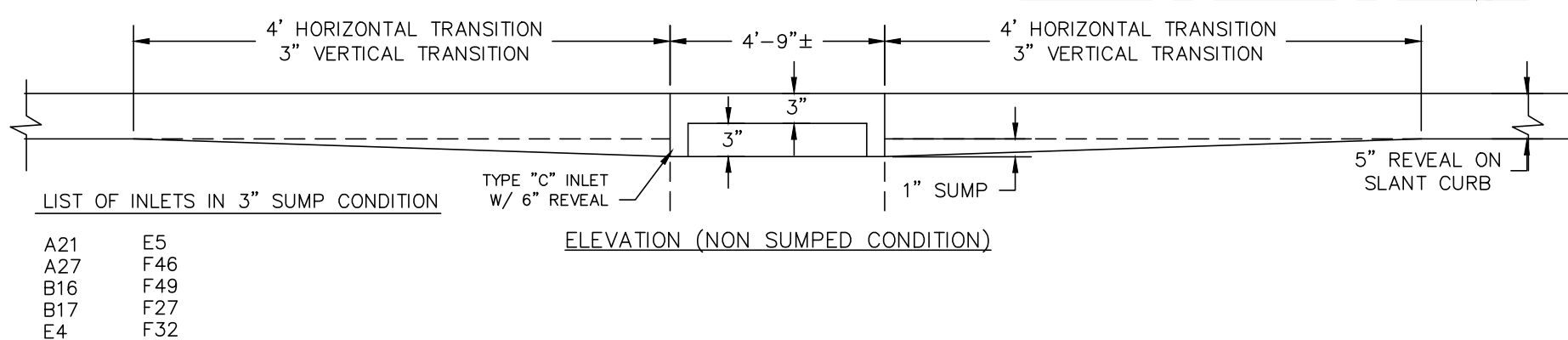
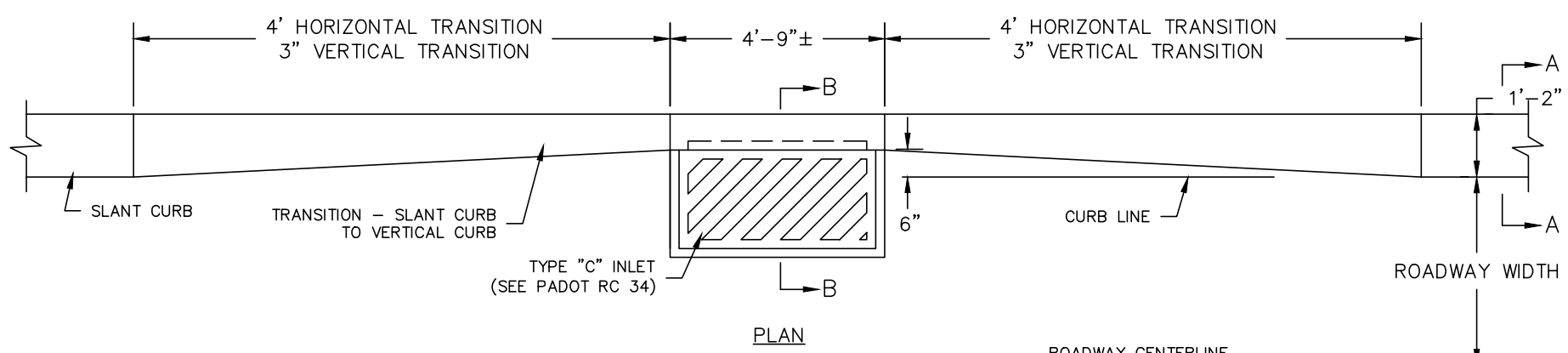


FIELD CREW: MOO, EC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT #784-22-001



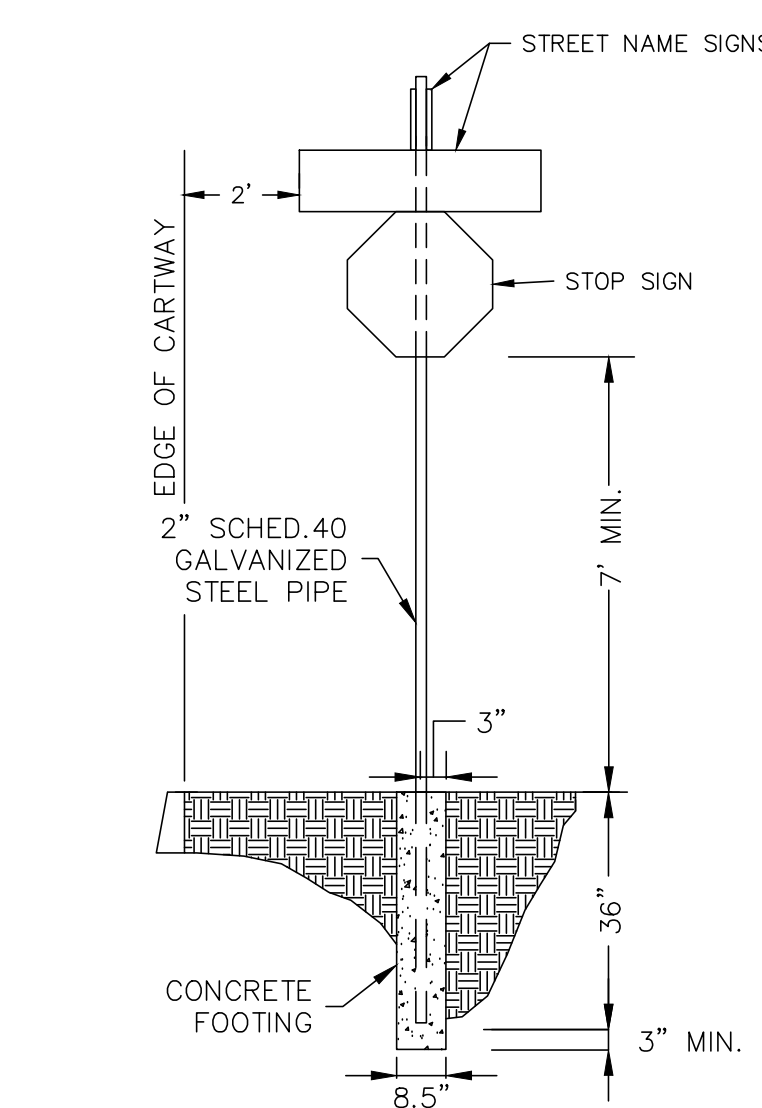
PROPOSED ROAD CROSS SECTION DETAIL

NO SCALE

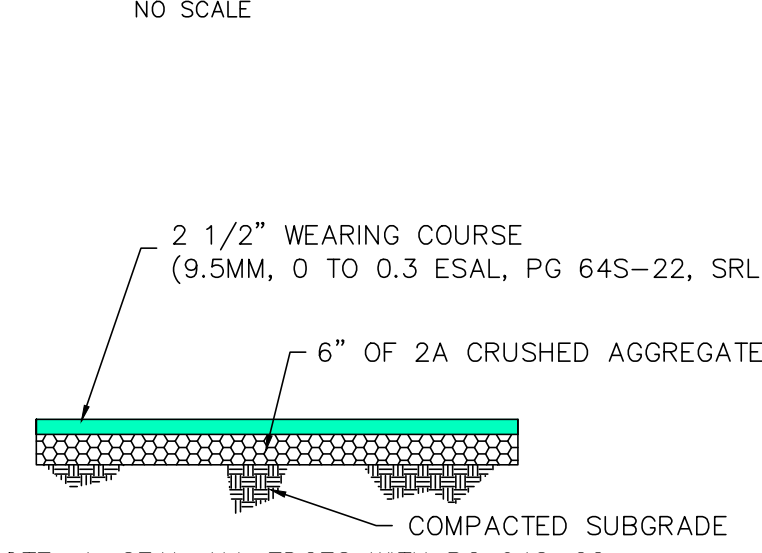


SLANT CURB TO TYPE C INLET CURB TRANSITION DETAIL

NO SCALE



NO SCALE



STANDARD DRIVEWAY PAVING DETAIL

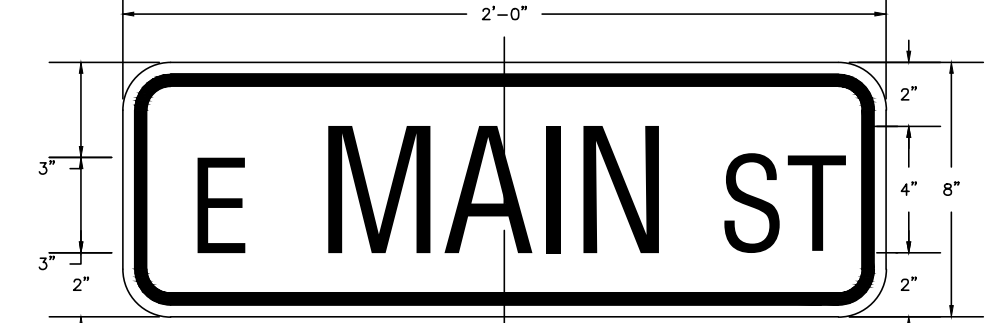
NO SCALE

SIGN SIZE	DIMENSIONS										SERIES	LINES	MAR-GIN	BOR-DER	BLANK STD
	A	B	C	D	E	F	G	H	I	J					
24x30	24	30	4	2	10	9 1/2	7 1/2	E	E	E	1/2	1/2	B5-3024		
30x36	30	36	5	2	12	12	9 1/2	E	E	E	1/2	1/2	B5-3630		
36x48	36	48	6	5	14	14 1/2	11	E	E	E	1/2	1/2	B5-4836		
48x60	48	60	8	6	18	19 1/2	14 1/2	E	E	E	1/2	1/2	B5-6048		



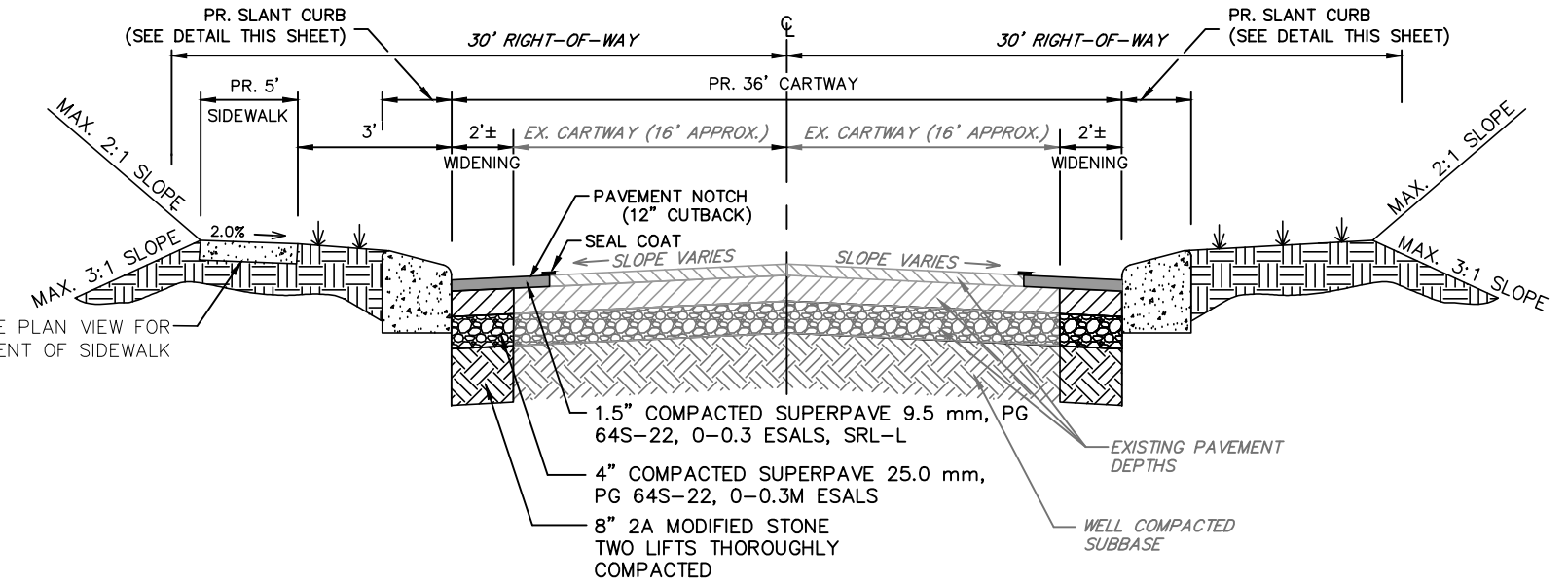
SPEED LIMIT SIGN DETAIL

NO SCALE



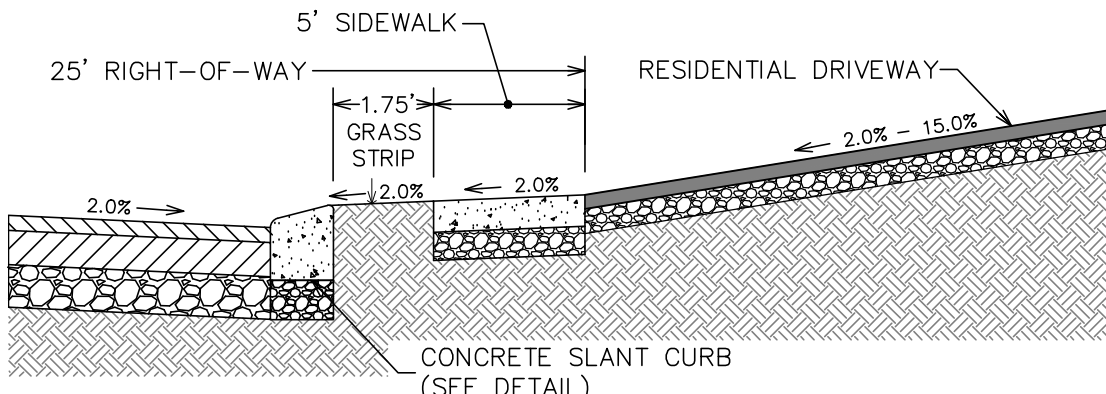
STREET NAME SIGN DETAIL

NO SCALE



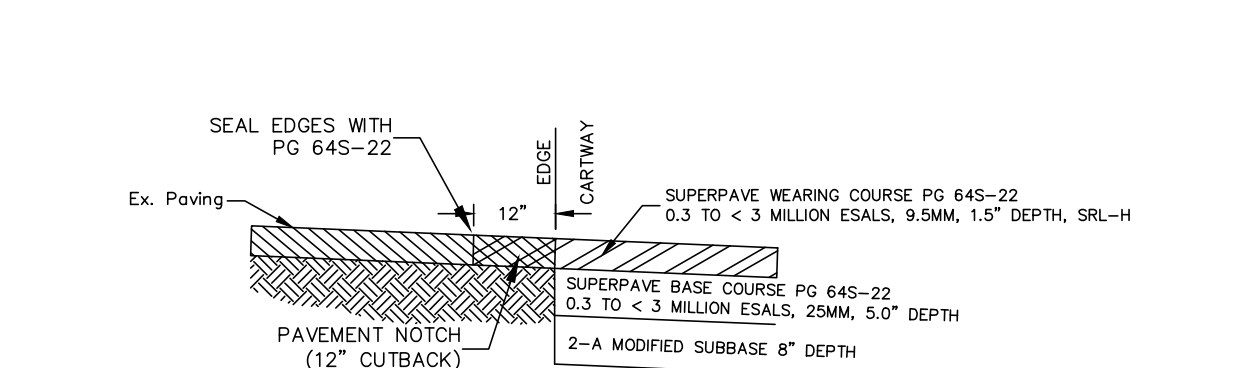
PROPOSED HORIZON BLVD. (T-498) TYPICAL WIDENING DETAIL

NO SCALE



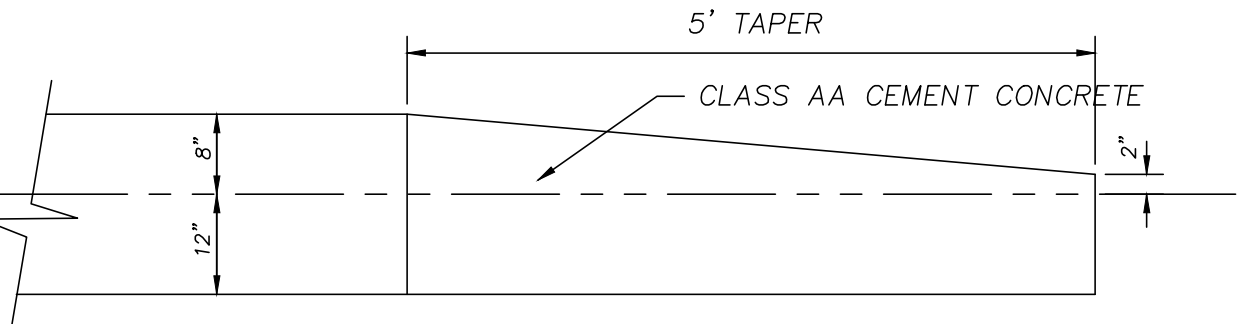
TYPICAL DRIVEWAY @ SIDEWALK DETAIL

NO SCALE



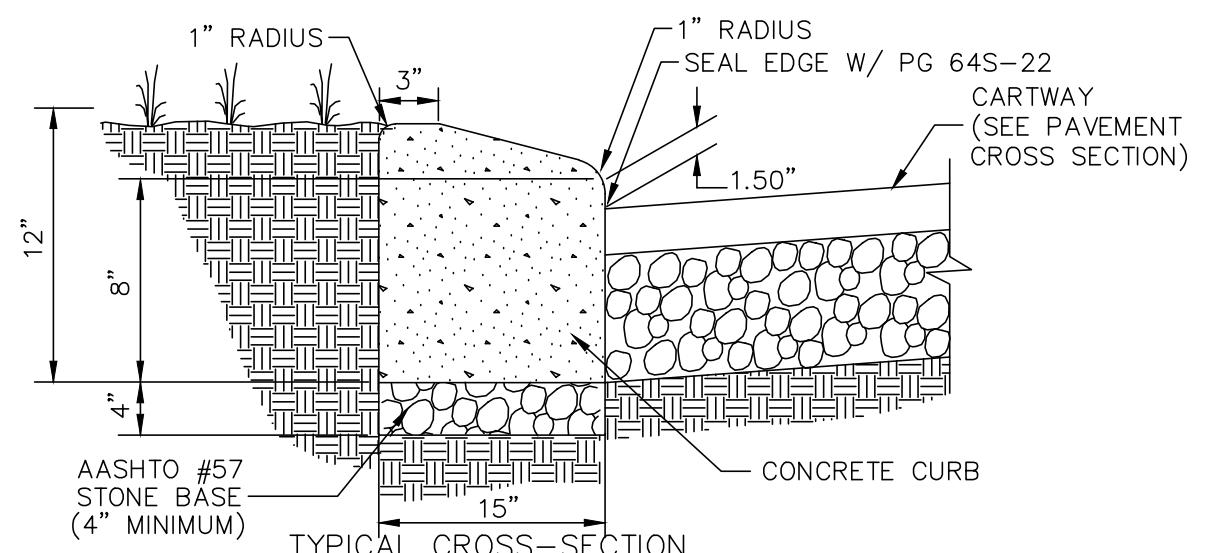
PAVEMENT NOTCH DETAIL

NO SCALE



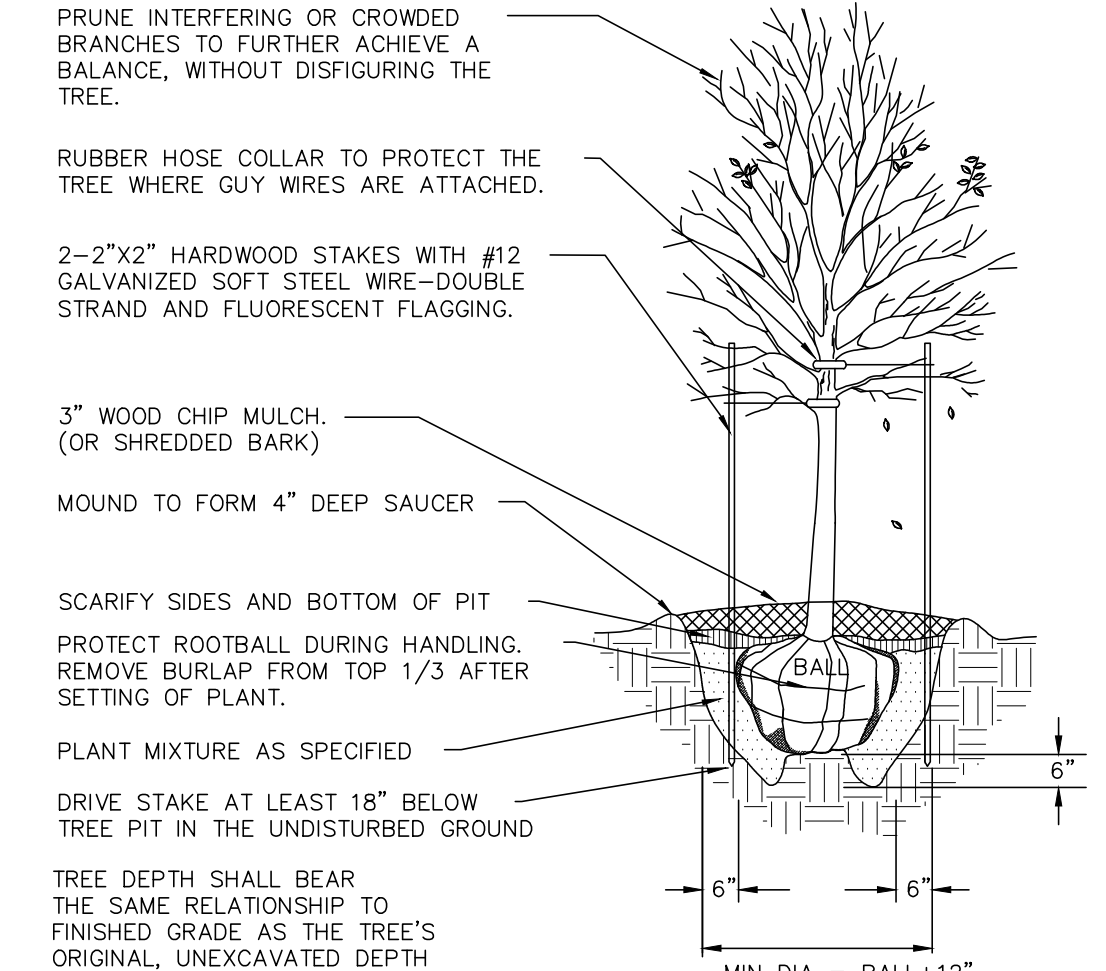
CURB TERMINAL END SECTION

NO SCALE



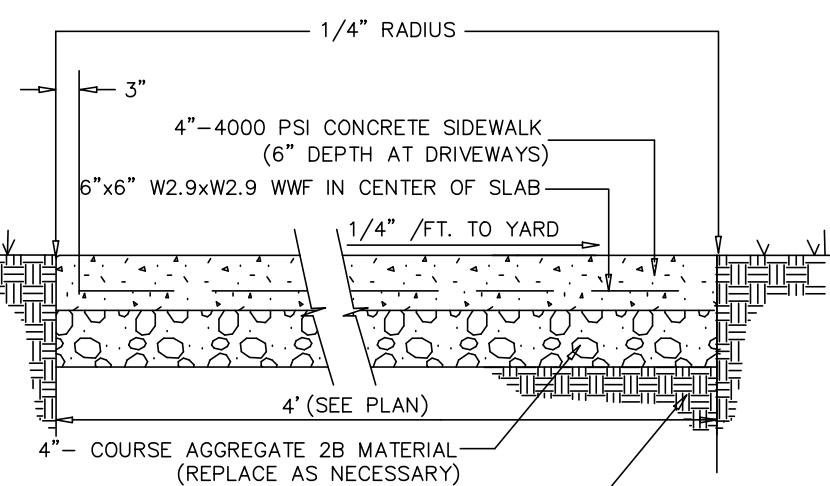
SLANT CURB DETAIL

NO SCALE



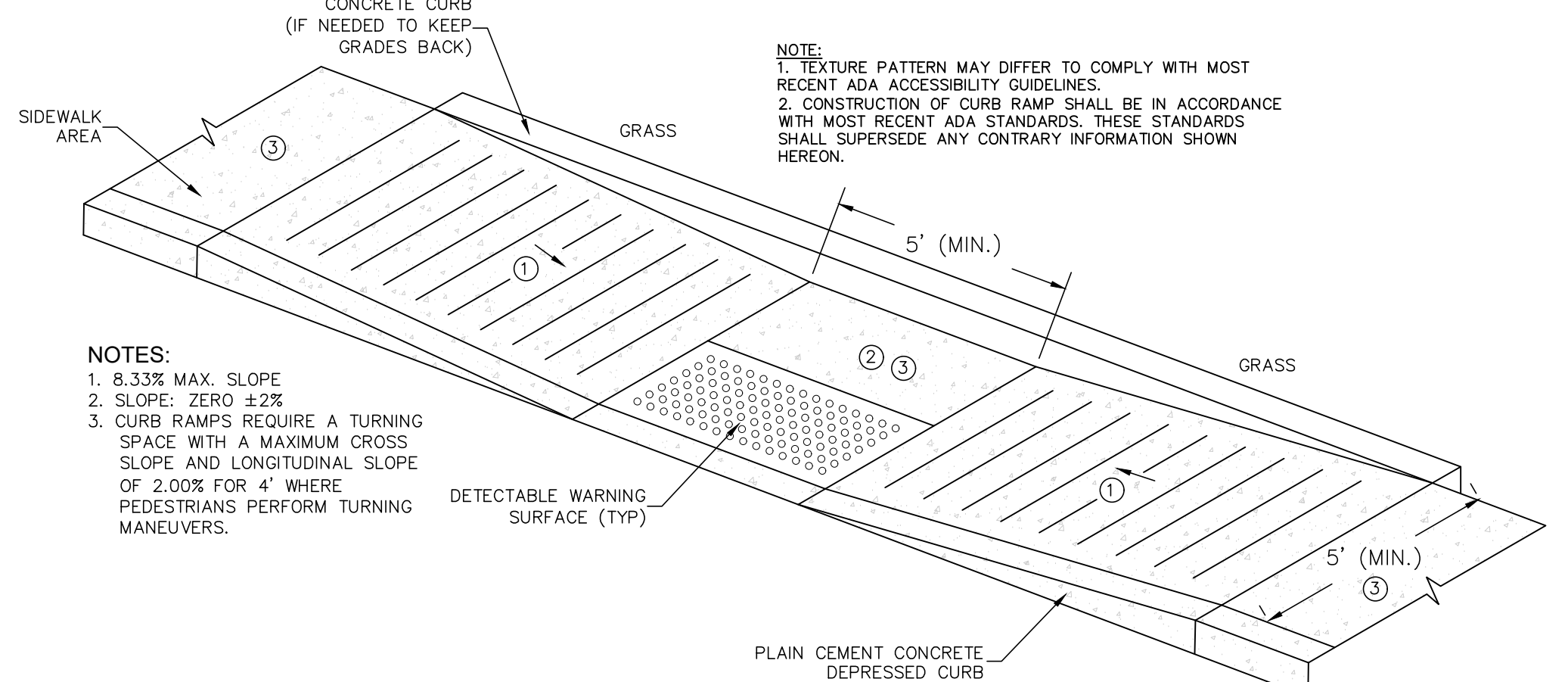
DECIDUOUS TREE PLANTING DETAIL

NO SCALE



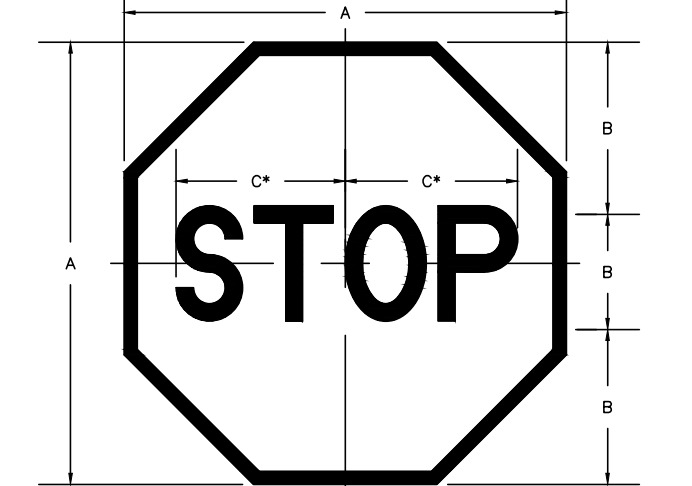
CONCRETE SIDEWALK/DRIVEWAY APRON DETAIL

NO SCALE



TYPE 2 CURB RAMP DETAIL

NO SCALE



STOP SIGN DETAIL

NO SCALE

STANDARD DRIVEWAY PAVING DETAIL

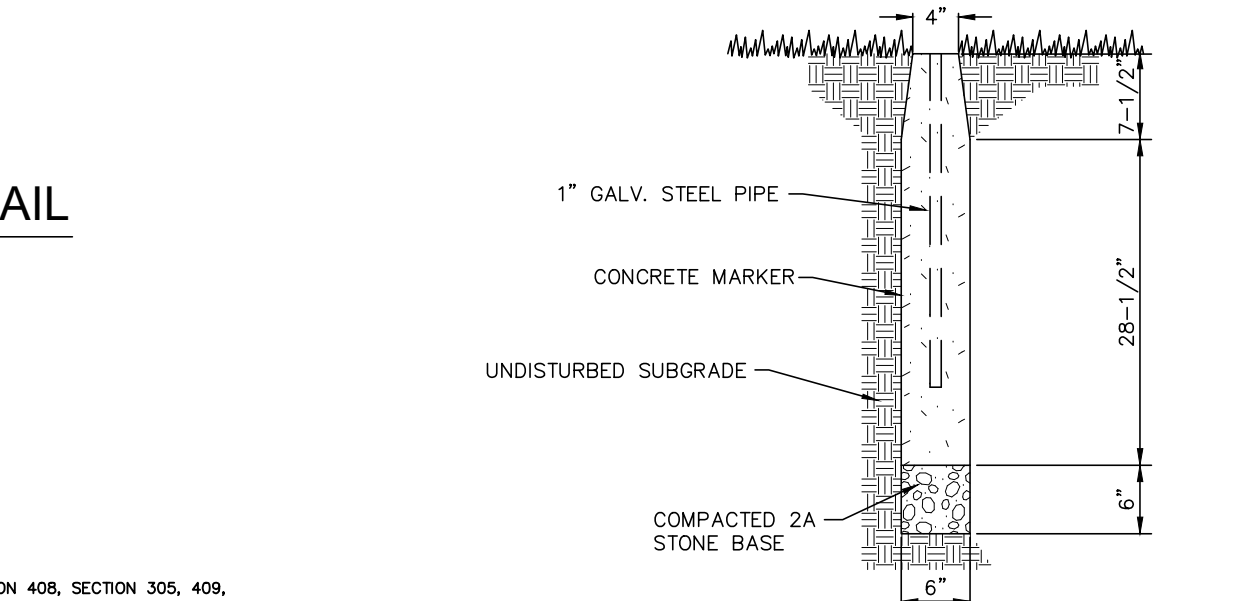
NO SCALE

STANDARD DRIVEWAY PAVING DETAIL

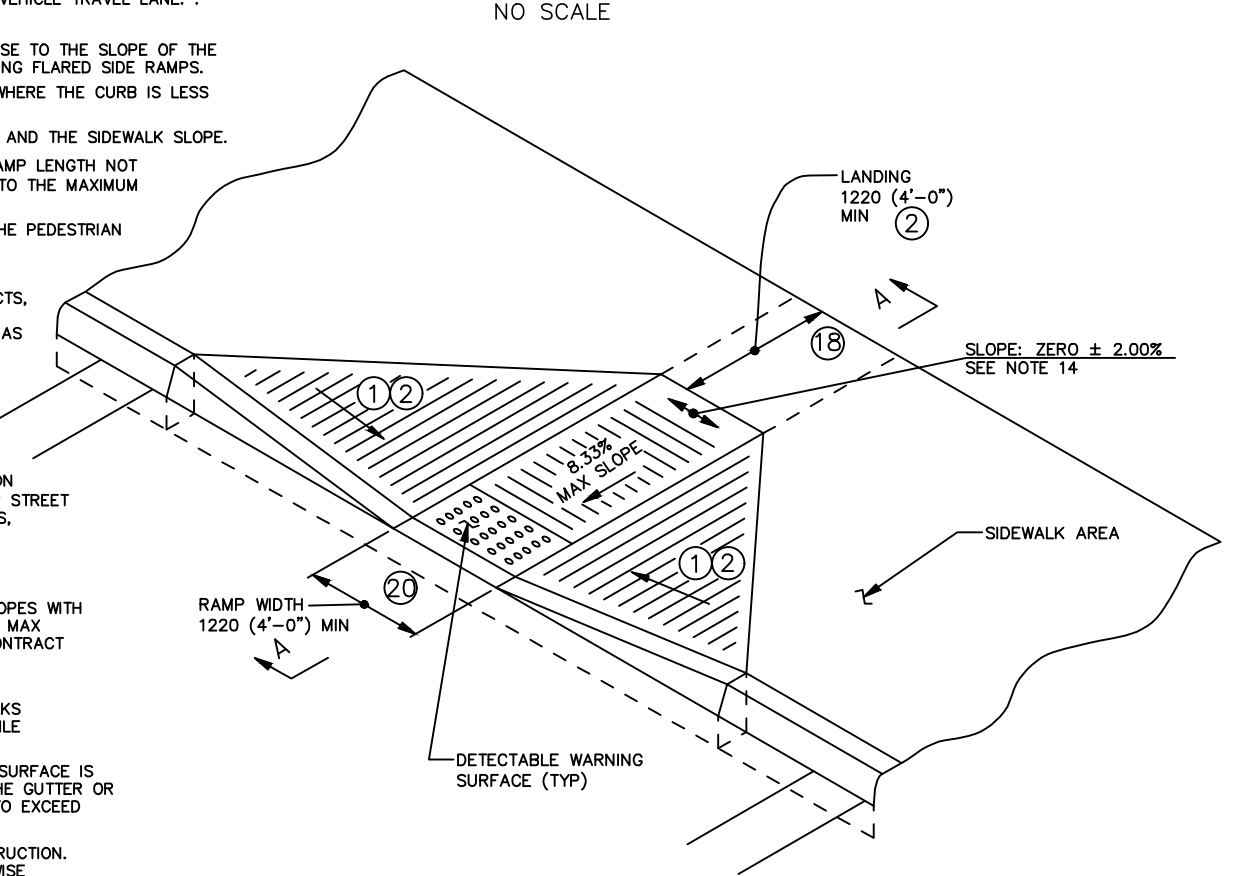
NO SCALE

CONCRETE MONUMENT DETAIL

NO SCALE



CONCRETE MONUMENT DETAIL

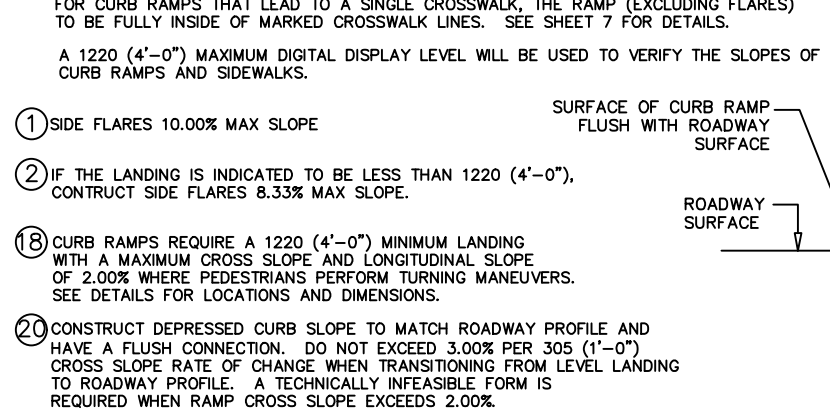


TYPE 1 CURB RAMP DETAIL (PENNDOT RC-67M)

NO SCALE

PERCENT SLOPE	EQUIVALENT SLOPE
10.00%	10:1 (1:10)
8.33%	12:1 (1:12)
7.14%	14:1 (1:14)
5.00%	20:1 (1:20)
2.00%	50:1 (1:50)
1.00%	100:1 (1:100)

EQUIVALENT SLOPES



TYPE 1 CURB RAMP DETAIL (PENNDOT RC-67M)

NO SCALE

REVISION	BY	DATE
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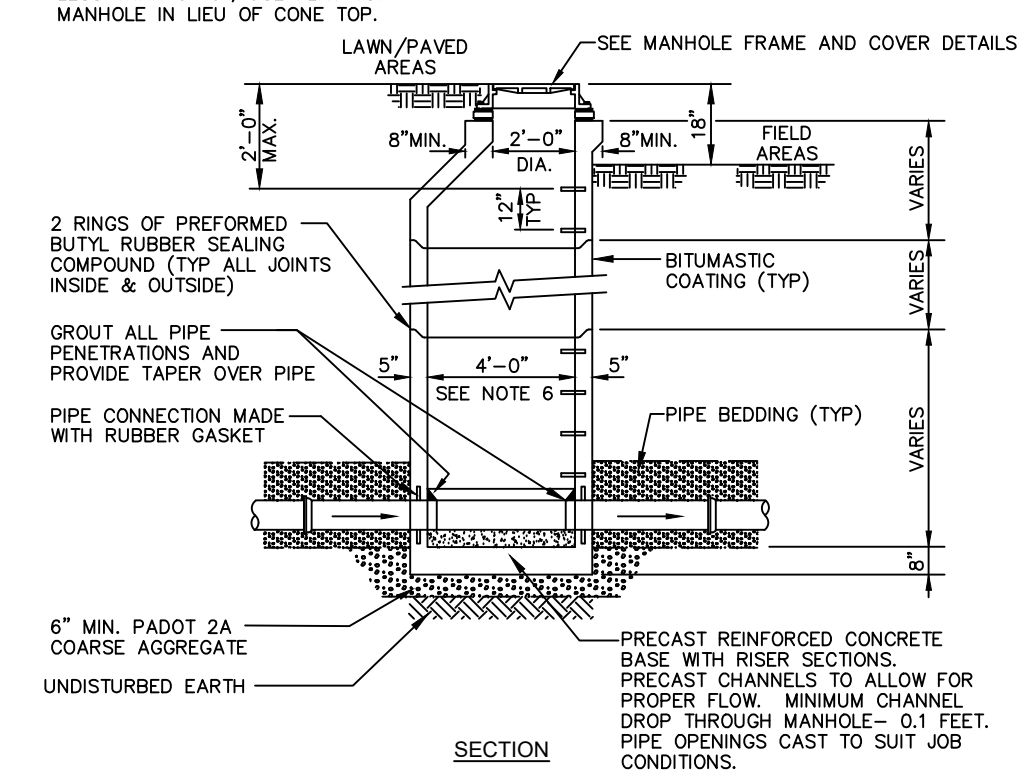
REVISION	DATE	BY	CDIS
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS	---
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS	---
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG	---

SITE DETAILS  
PRELIMINARY SUBDIVISION  
For  
THE ESTATES AT HEARTHSTONE  
located in  
NORTH LEBANON TOWNSHIP  
LEBANON County, Pennsylvania

**is**  
Steinbeck Engineering & Surveying, Inc.  
279 Lebanon, Pennsylvania 17042  
Phone: (717) 272-7110  
Fax: (717) 272-7348

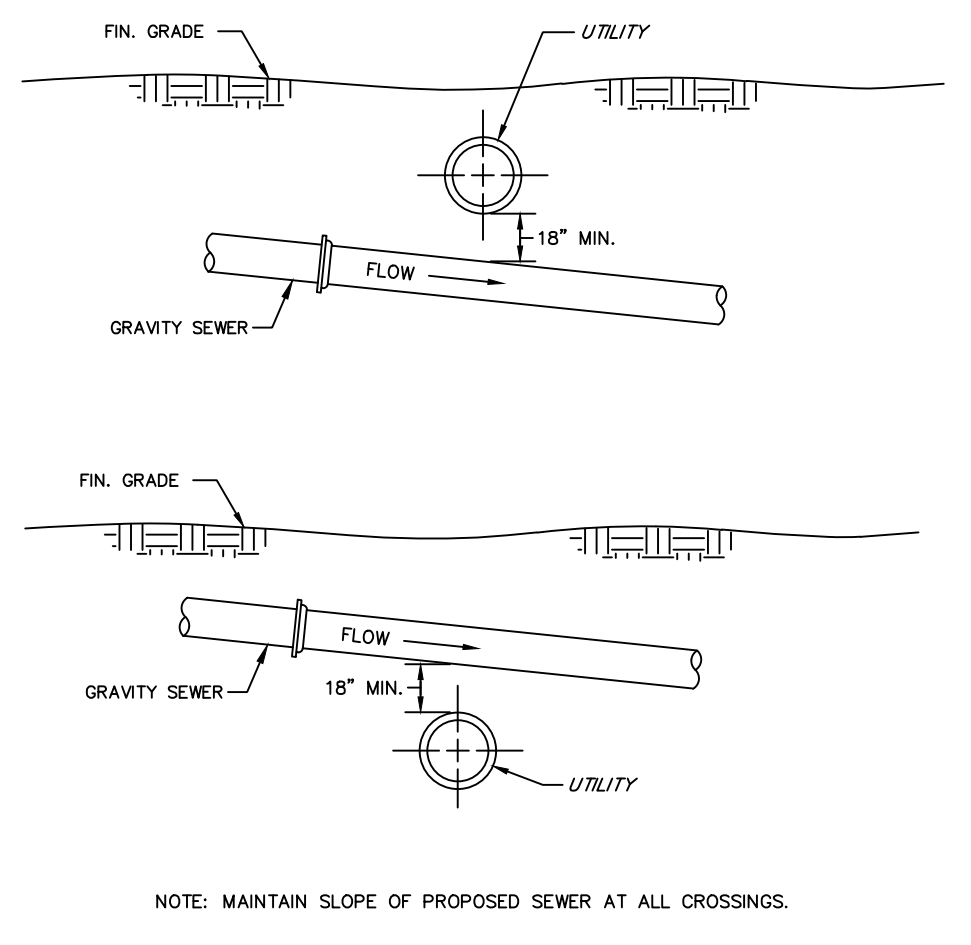
FIELD CREW: MOD, JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: AS NOTED
PROJECT # 784-22-001

- NOTES:**
- ADJUST TO GRADE WITH CONC. GRADE RINGS (MAX. VERT. ADJUST. 6") SEE FRAME & COVER DETAILS.
  - MECHANICALLY VIBRATED PRECAST CONC SHALL CONFORM TO A.S.T.M. SPEC. C-478.
  - IF INCOMING INVERT EXCEEDS OUTGOING INVERT BY GREATER THAN OR EQUAL TO 6", SEE INSIDE SPLASH/INSIDE DROP MANHOLE DETAILS.
  - FOR MANHOLES WHERE TOP OF RIM TO INVERT DISTANCE IS LESS THAN 5'-0", USE FLAT TOP MANHOLE IN LIEU OF CONE TOP.
  - FILL ALL LIFTING HOLES WITH NON-SHRINK GROUT.
  - LARGER DIA MANHOLE REQUIRED ON INSIDE DROP AND INSIDE SPLASH CONNECTION GREATER THAN 12" SEE DETAIL 9.



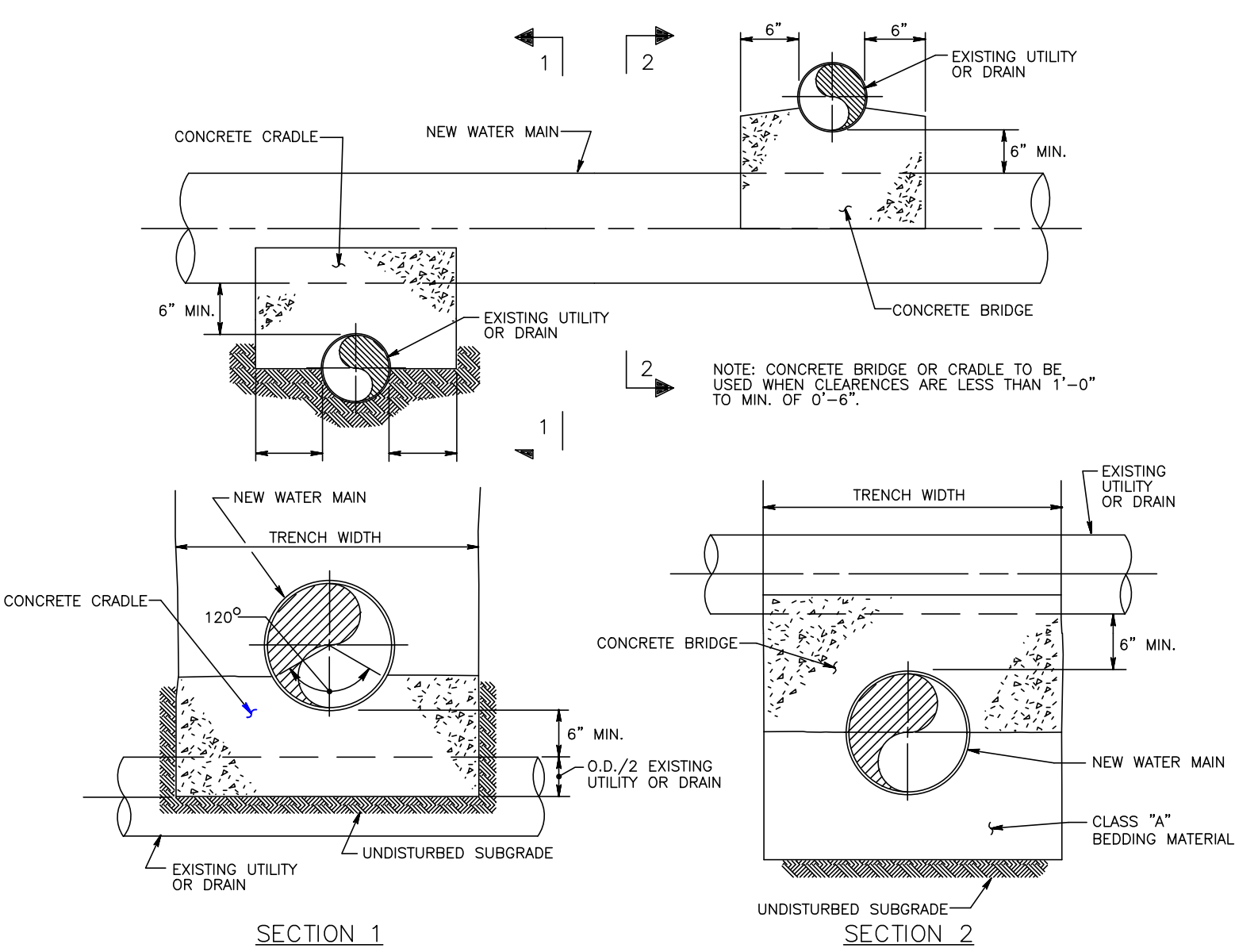
**PRECAST MANHOLE DETAIL  
8" THRU 24" SEWERS**

NO SCALE



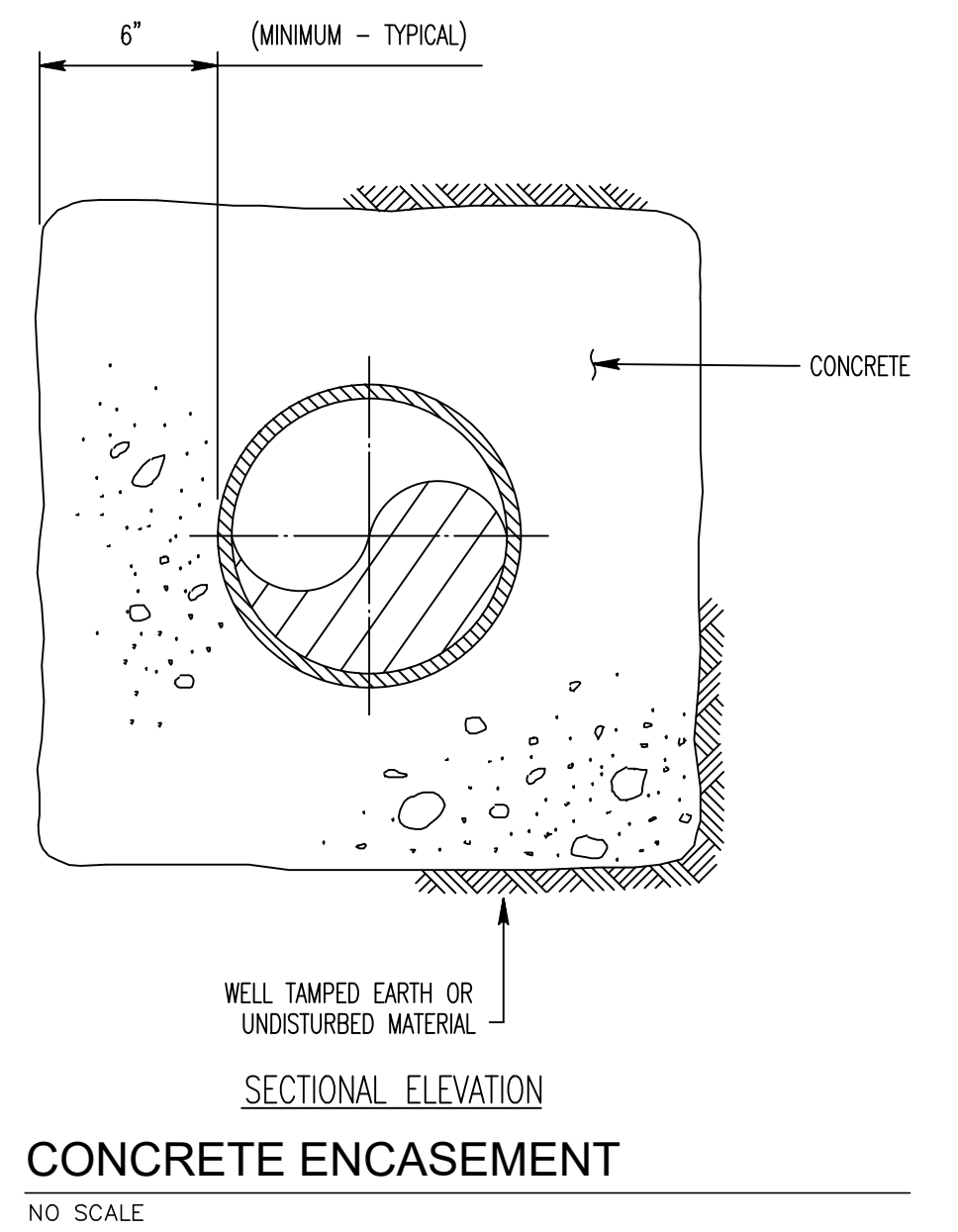
**GRAVITY SEWER CROSSING UTILITIES DETAIL**

NO SCALE



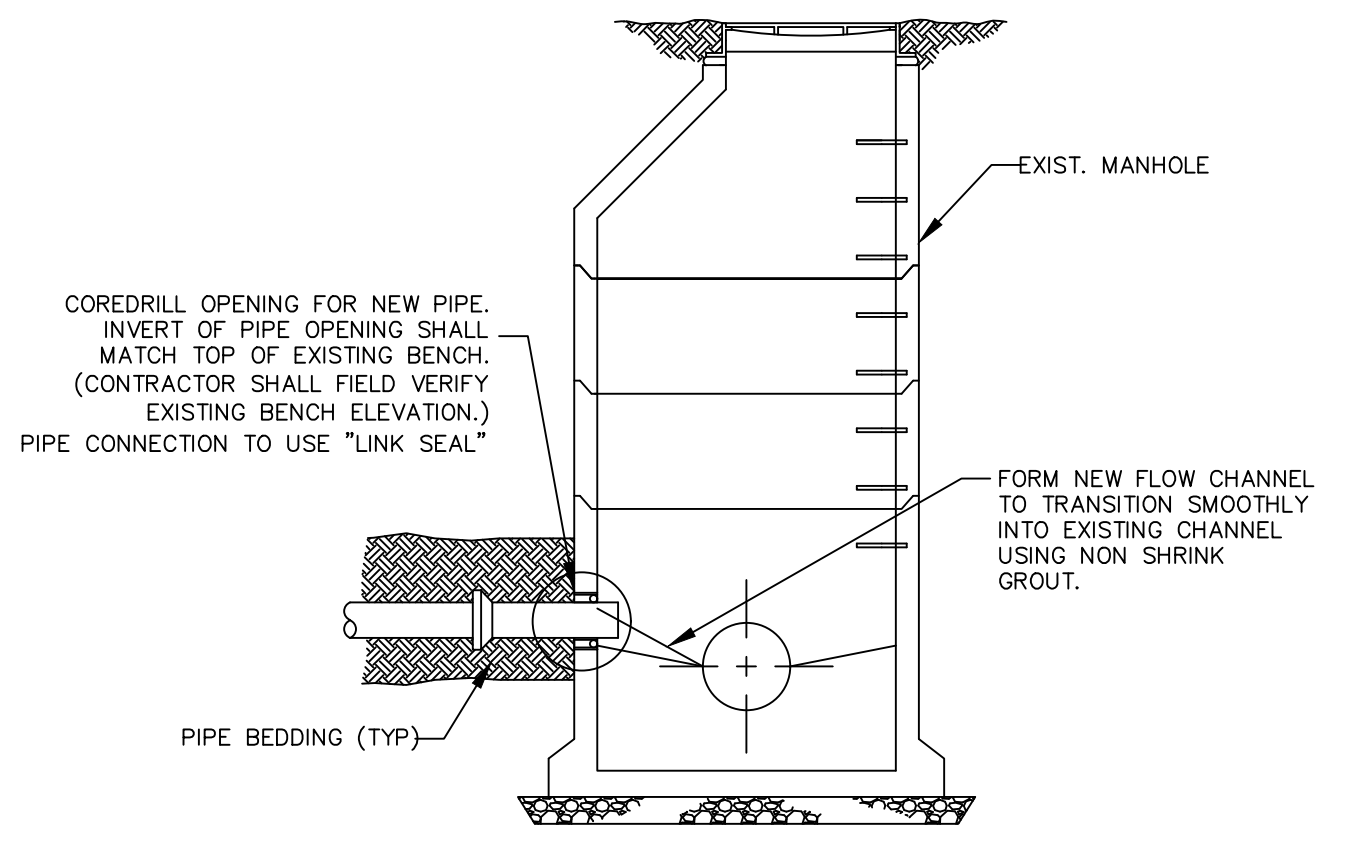
**UTILITY CROSSING - CONCRETE CRADLE AND BRIDGE DETAIL**

NO SCALE



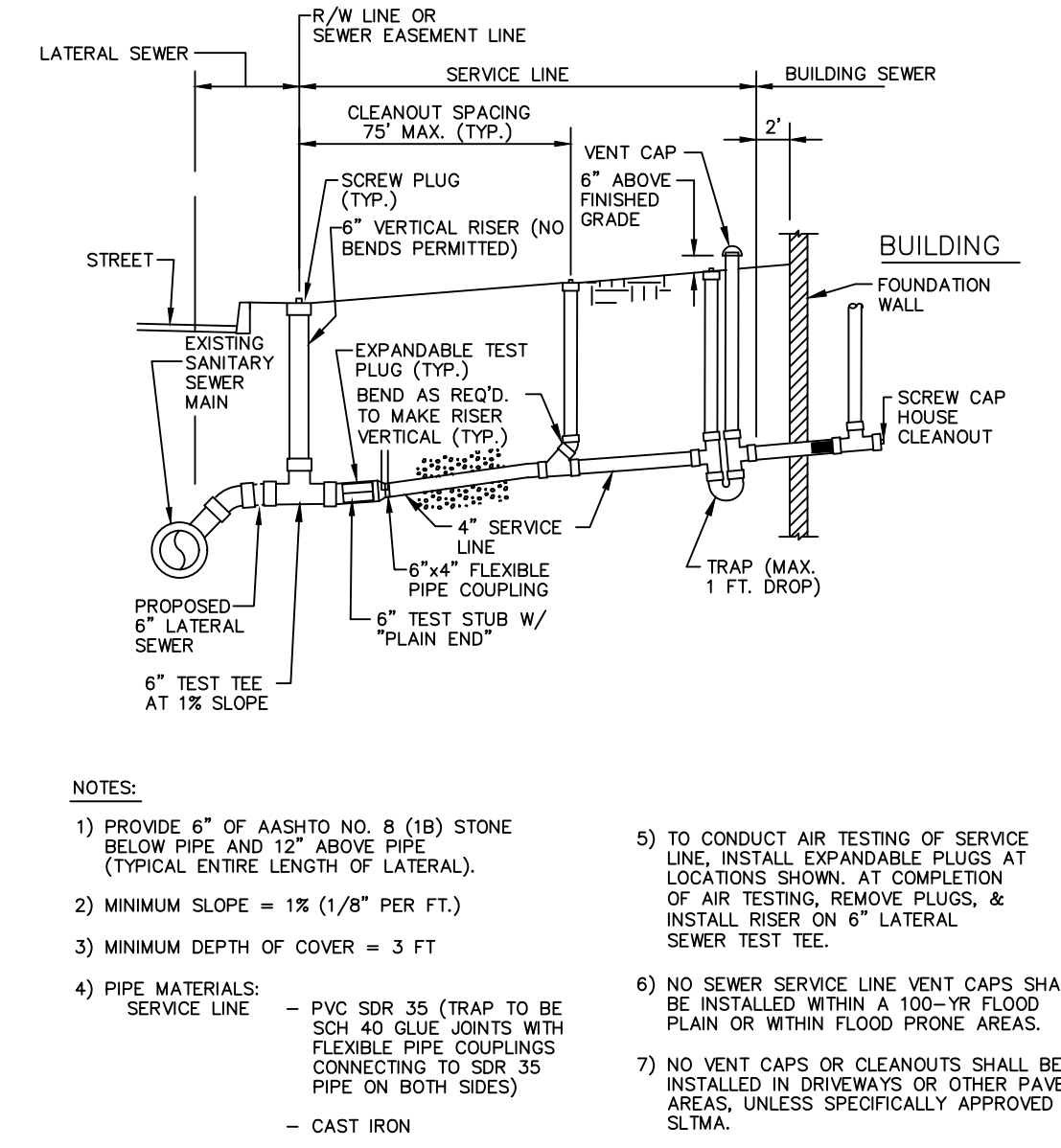
**CONCRETE ENCASUREMENT**

NO SCALE



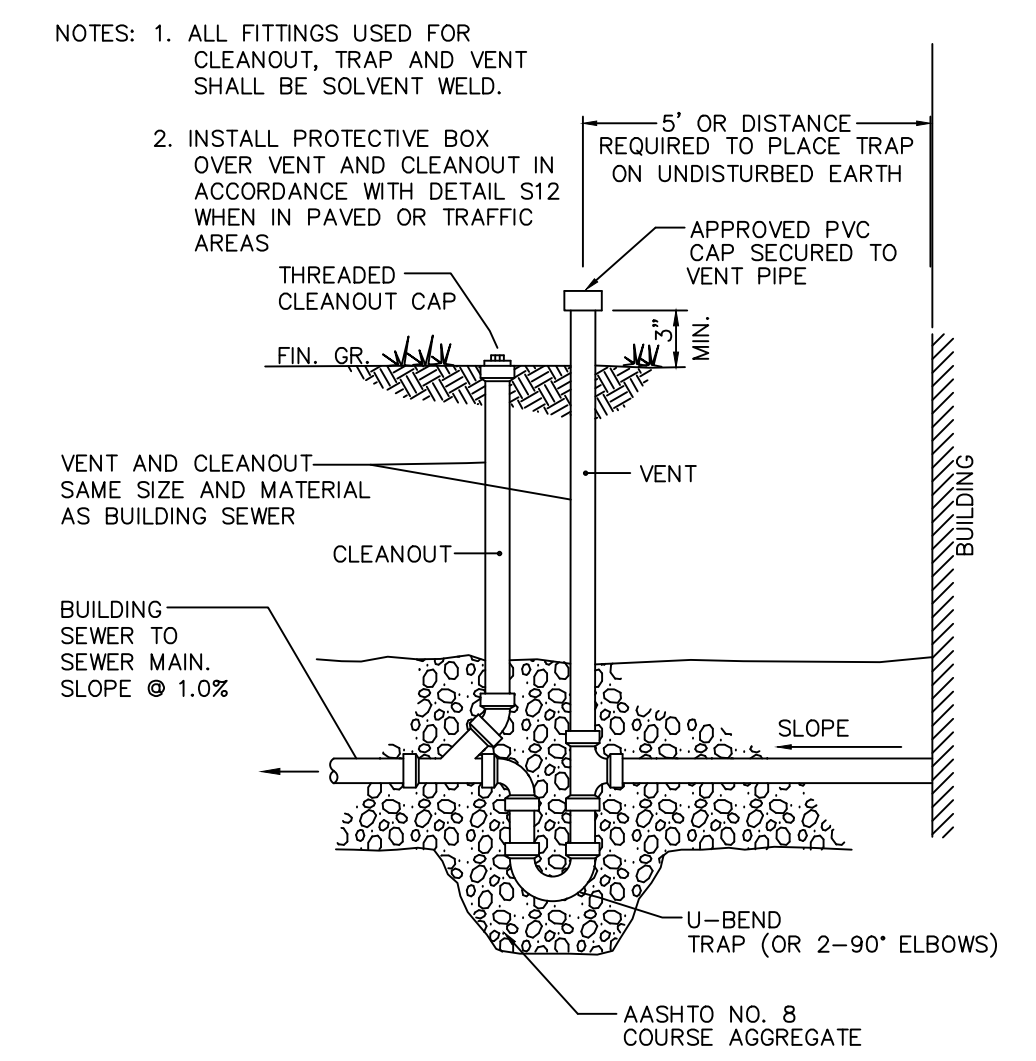
**SEWER CONNECTION TO EXISTING MANHOLE DETAIL**

NO SCALE



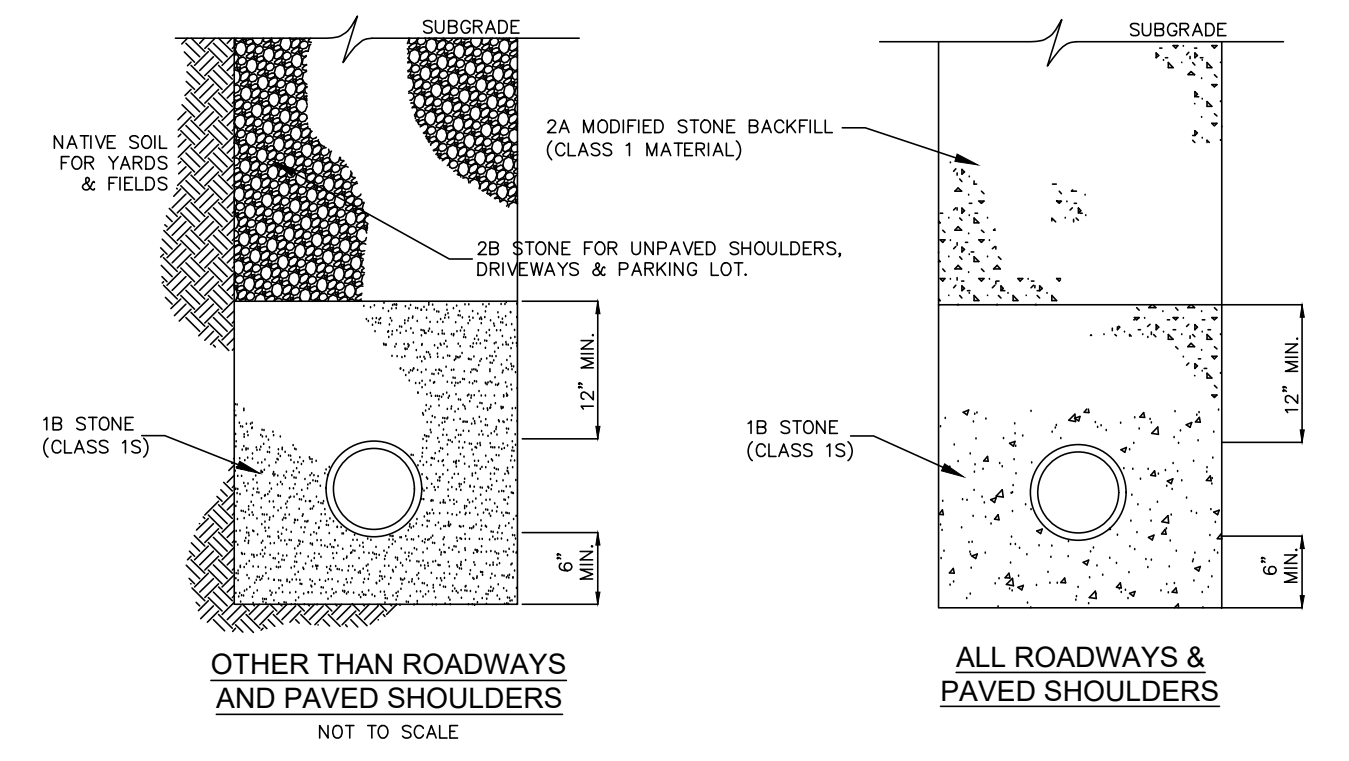
**SERVICE LINE INSTALLATION DETAIL**

NO SCALE



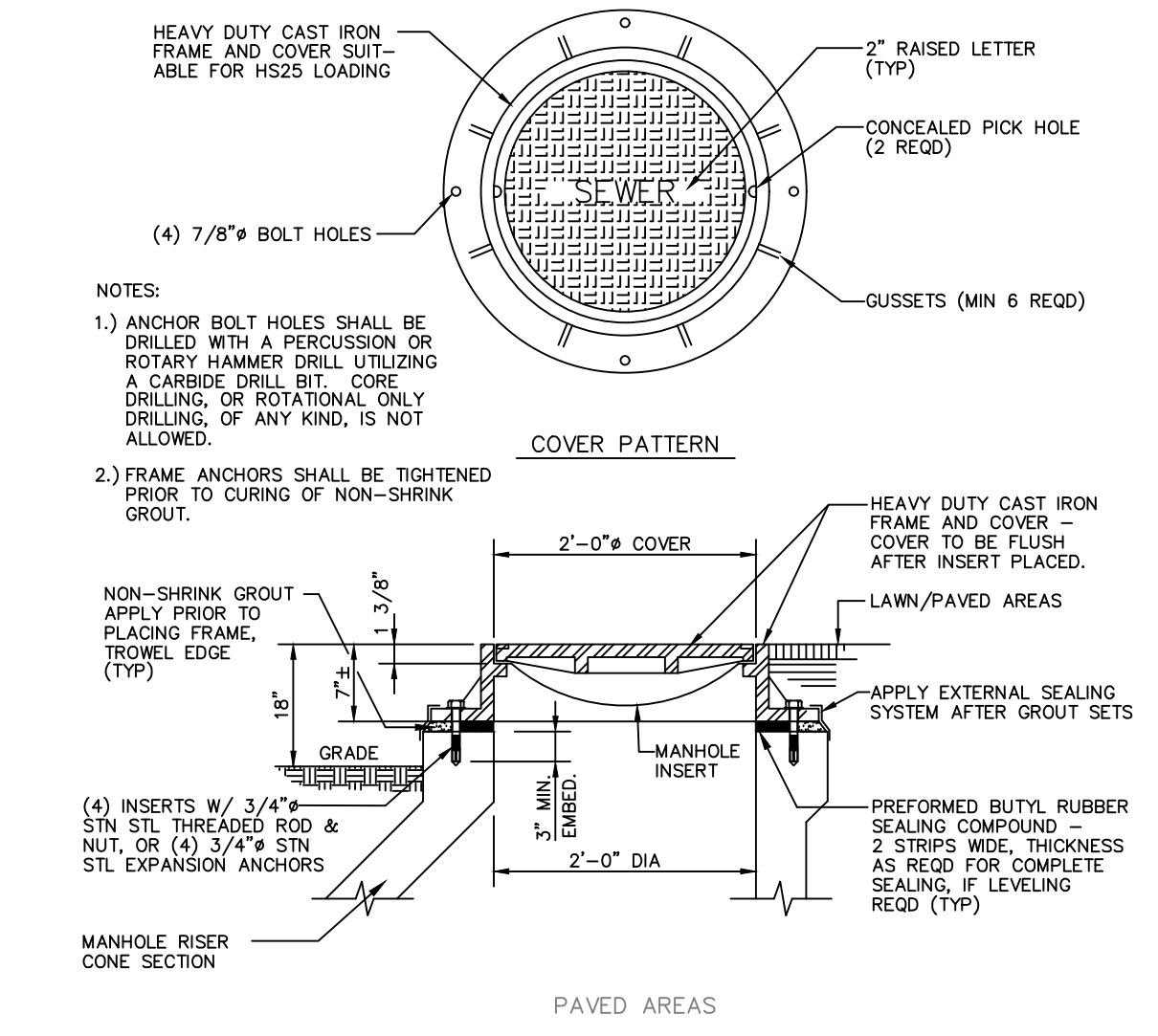
**TRAP AND VENT DETAIL**

NO SCALE



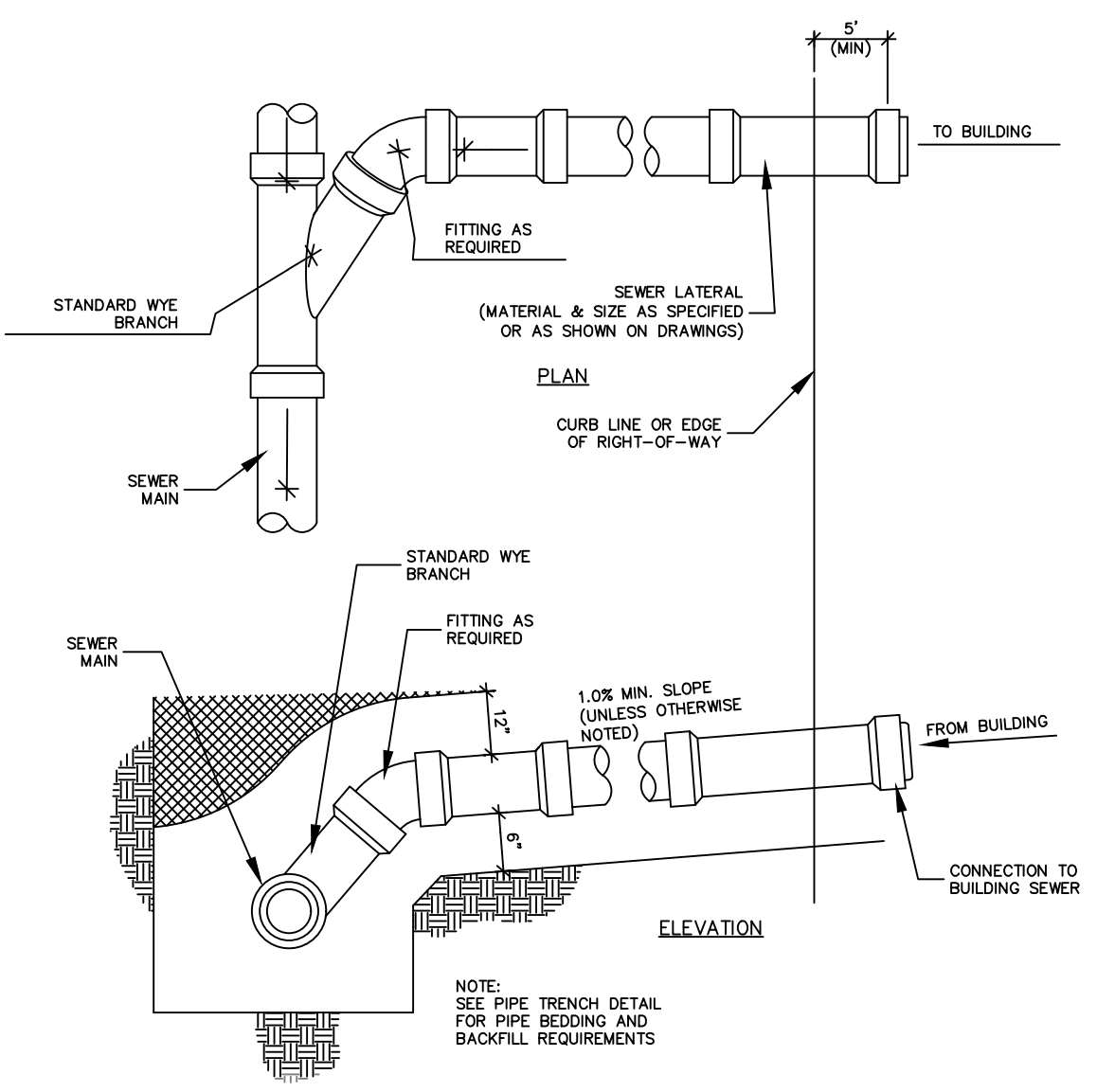
**TYPICAL TRENCH BACKFILL FOR SANITARY SEWER  
(NORTH LEBANON TOWNSHIP)**

NO SCALE



**STANDARD MANHOLE FRAME & COVER  
WITHOUT GRADE RINGS DETAIL**

NO SCALE



**SEWER LINE CONNECTION DETAIL**

NO SCALE

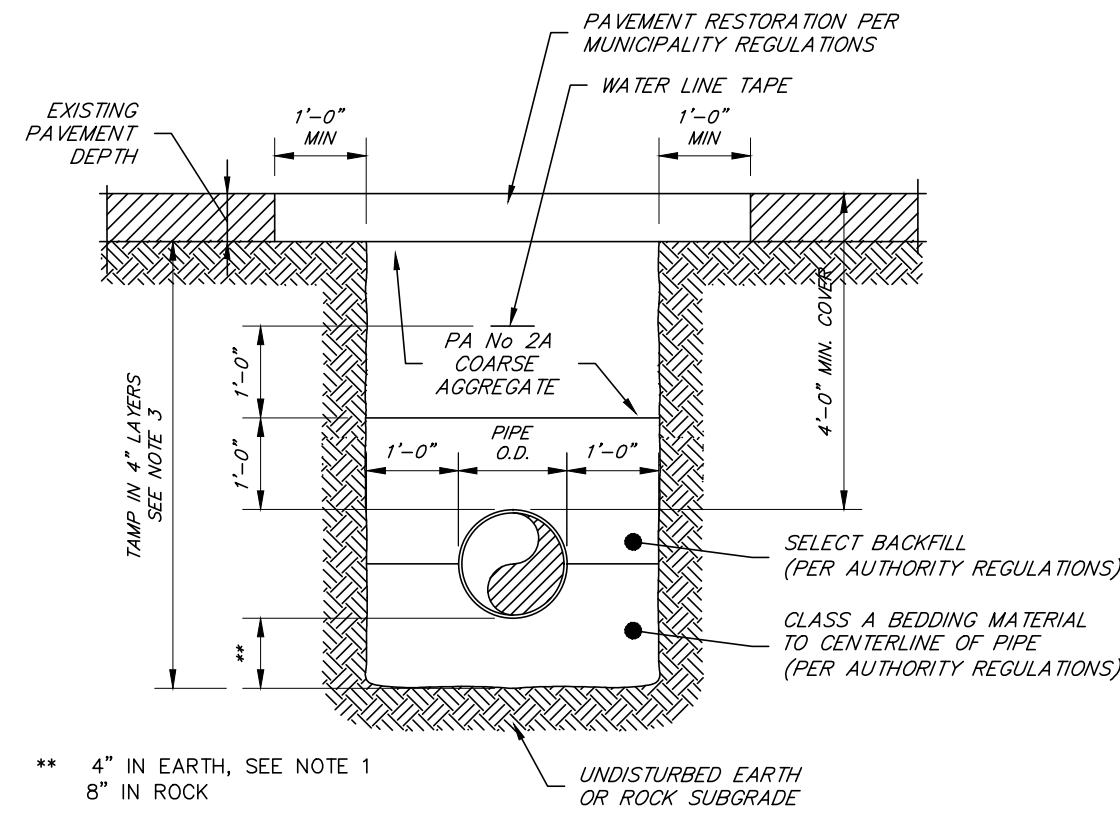
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REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**SANITARY SEWER DETAILS**  
 PRELIMINARY SUBDIVISION  
 For  
**THE ESTATES AT HEARTHIDE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

FIELD CREW:	MOD/JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	AS NOTED
PROJECT #	784-22-001

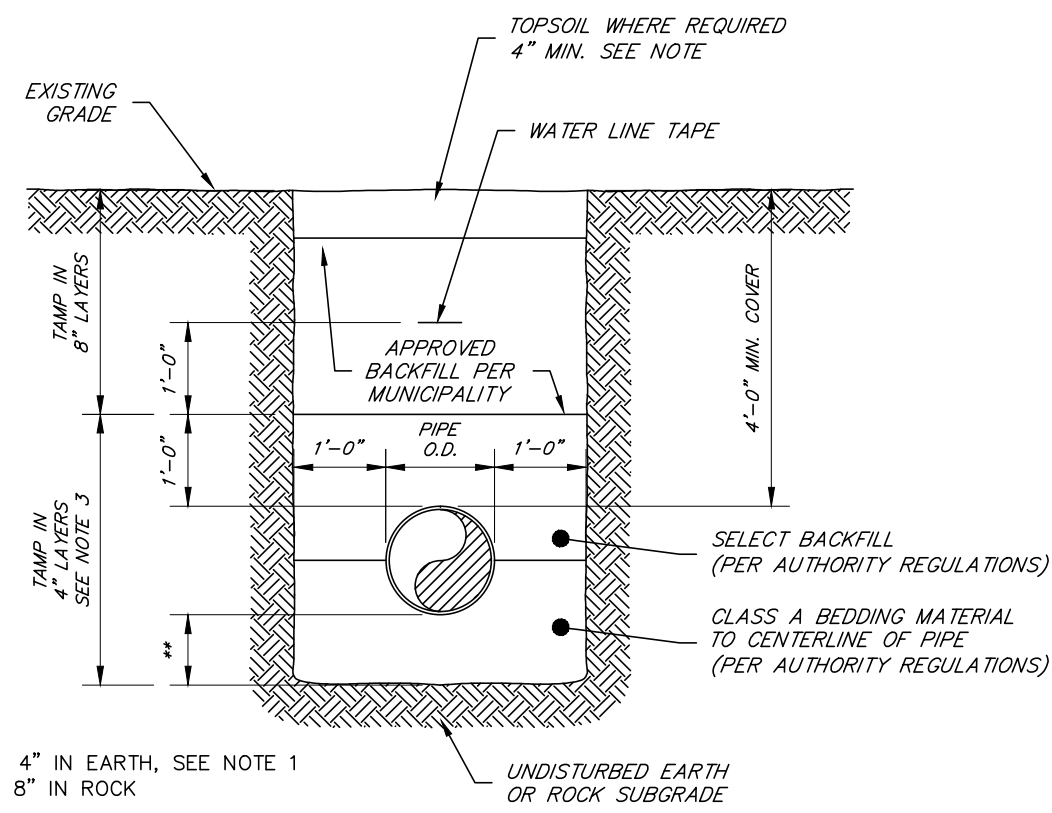
**TRENCH NOTES**

- IF UNSUITABLE SUBSOIL IS ENCOUNTERED AT THE NORMAL TRENCH SUBGRADE THE CONTRACTOR SHALL REMOVE IT TO THE DEPTH DIRECTED BY THE ENGINEER IN THE FIELD, AND SHALL BACKFILL W/ CLASS A BEDDING IN 4" LAYERS.
- BOTTOM OF TRENCH SHALL BE FREE OF WATER PRIOR TO WATER MAIN INSTALLATION.
- IF VIBRATORY COMPACTION EQUIPMENT IS USED BACKFILL MAY BE IN 8" LAYERS.
- PROVIDE 4" OF TOPSOIL WHERE SEEDING IS REQUIRED. SEE NOTE 6 AT GRAVEL DRIVEWAYS.
- CONTRACTOR SHALL SHORE THE TRENCH IN ACCORDANCE WITH SECTION 02151 OF THE SPECIFICATIONS.
- GRAVEL AND PAVED DRIVEWAYS TO BE RESTORED IN KIND.
- CONTRACTOR MAY SUBSTITUTE PA No 2A FOR CLASS A BEDDING AT NO INCREASED COST TO THE OWNER WITH WRITTEN PERMISSION FROM THE ENGINEER OR OWNER. FOR DESCRIPTION OF BACKFILL MATERIAL, SEE SPECIFICATION SECTION 02221.
- ALL PAVING RESTORATION TO BE IN ACCORDANCE WITH PennDOT PUBLICATION 408/2003 AND PUBLICATION 72M.



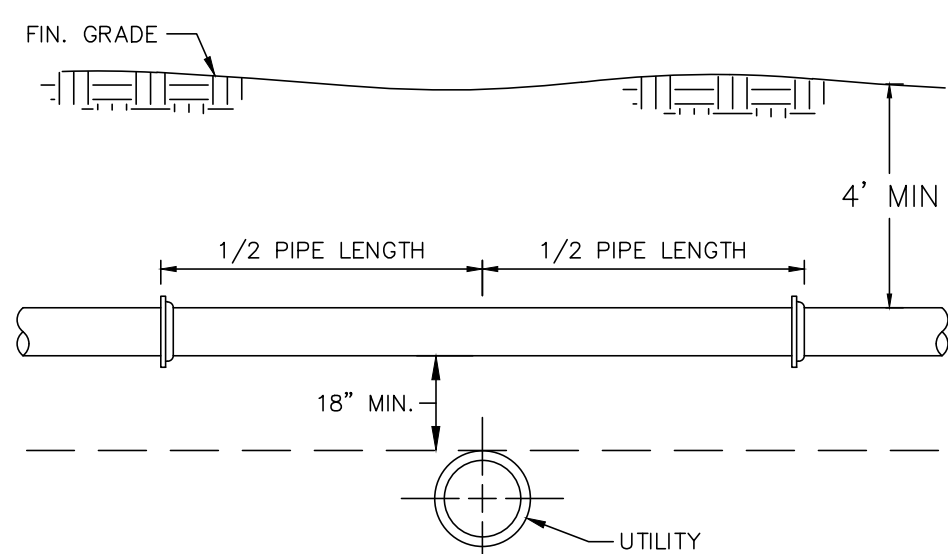
**TYPICAL TRENCH DETAIL - PAVED AREAS**

NO SCALE



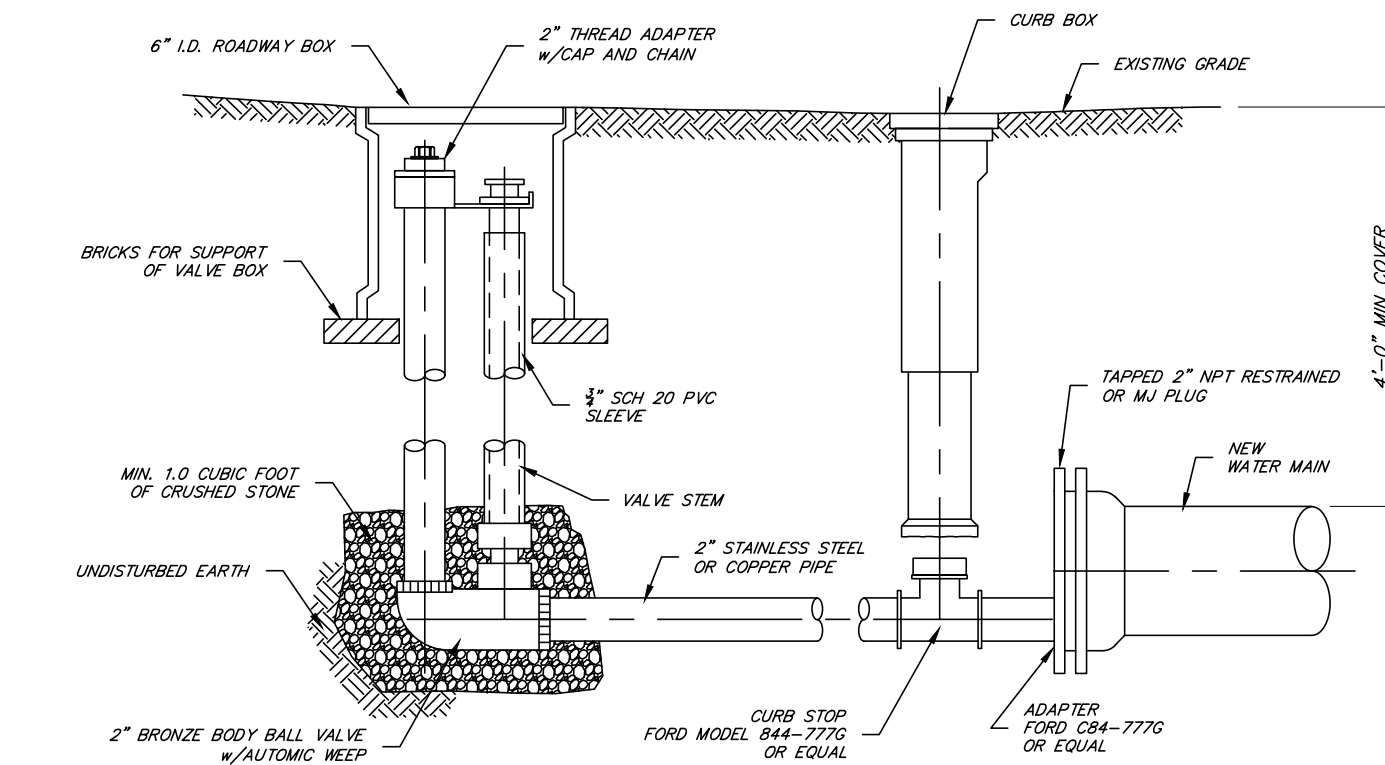
**TYPICAL TRENCH DETAIL - UNPAVED AREAS**

NO SCALE



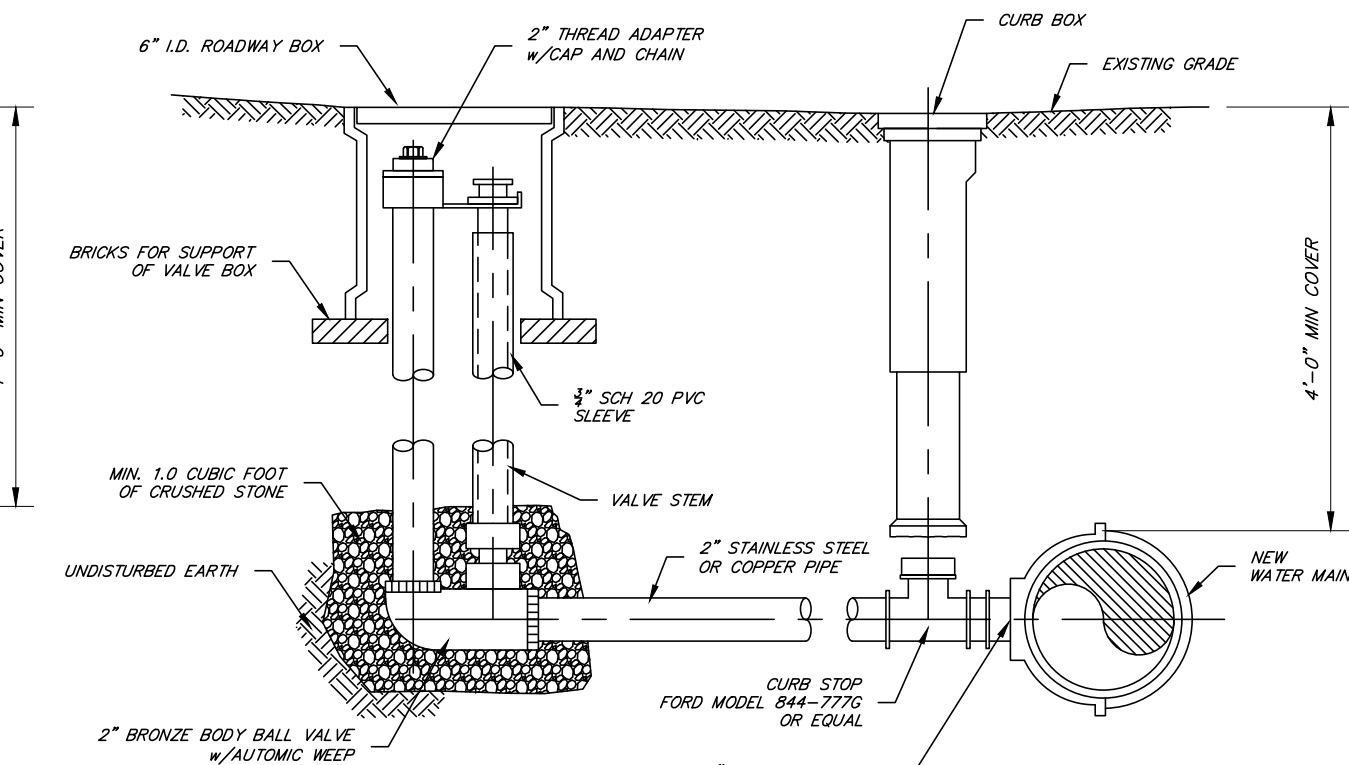
**WATER MAIN UTILITY CROSSING DETAIL**

NO SCALE



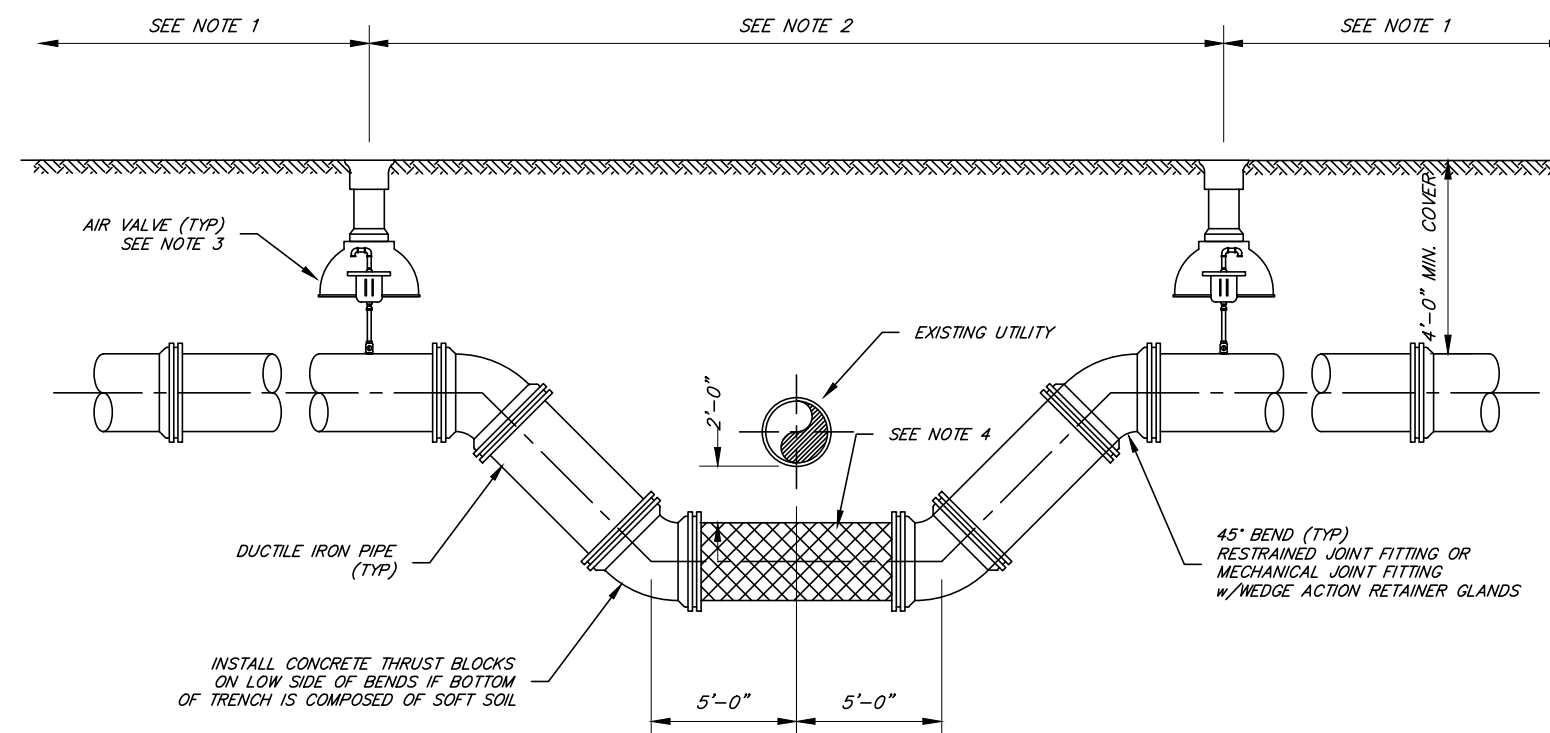
**2" BLOW OFF HYDRANT DETAILS**

NO SCALE



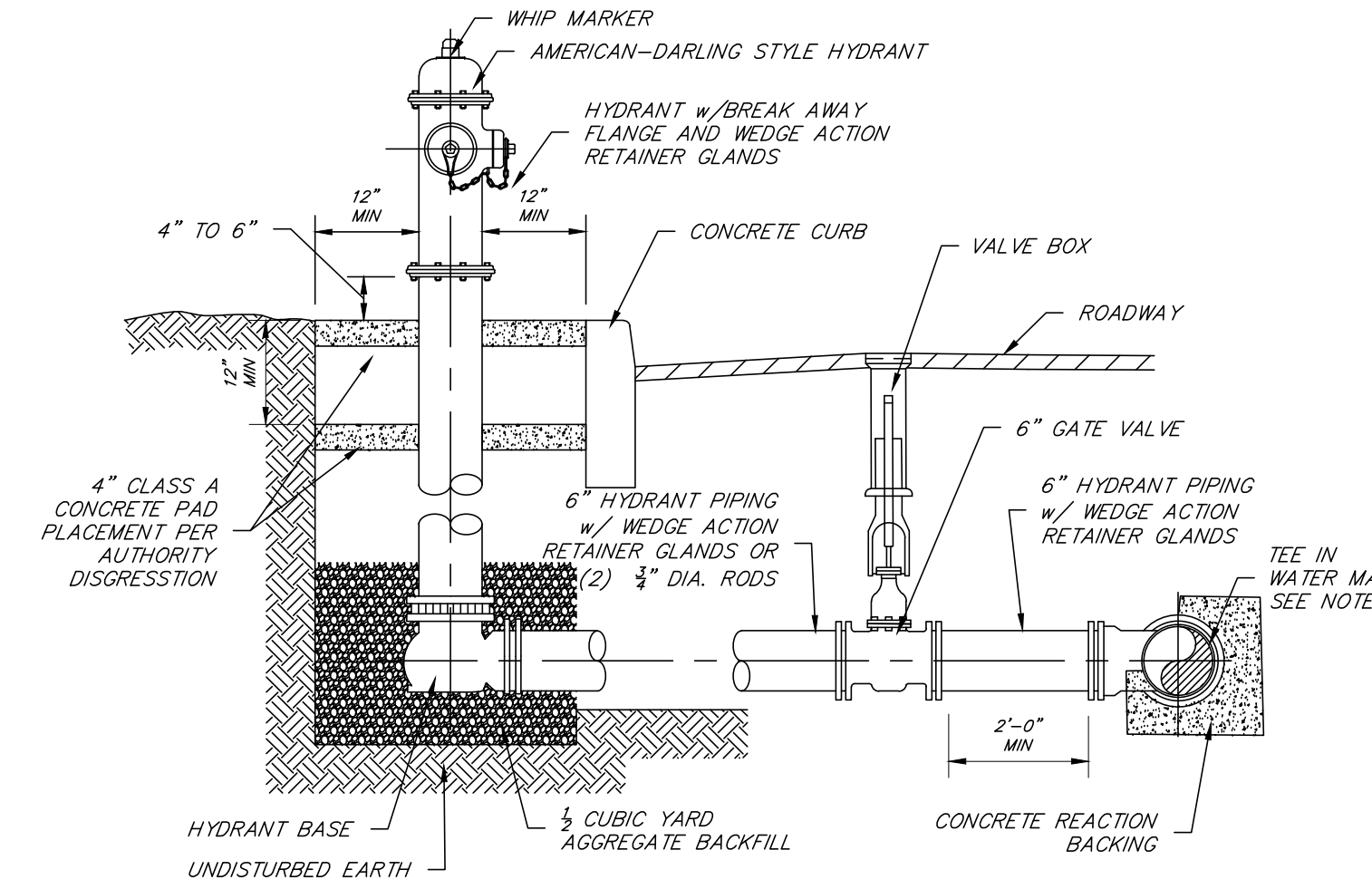
**2" BLOW OFF HYDRANT DETAILS**

NO SCALE



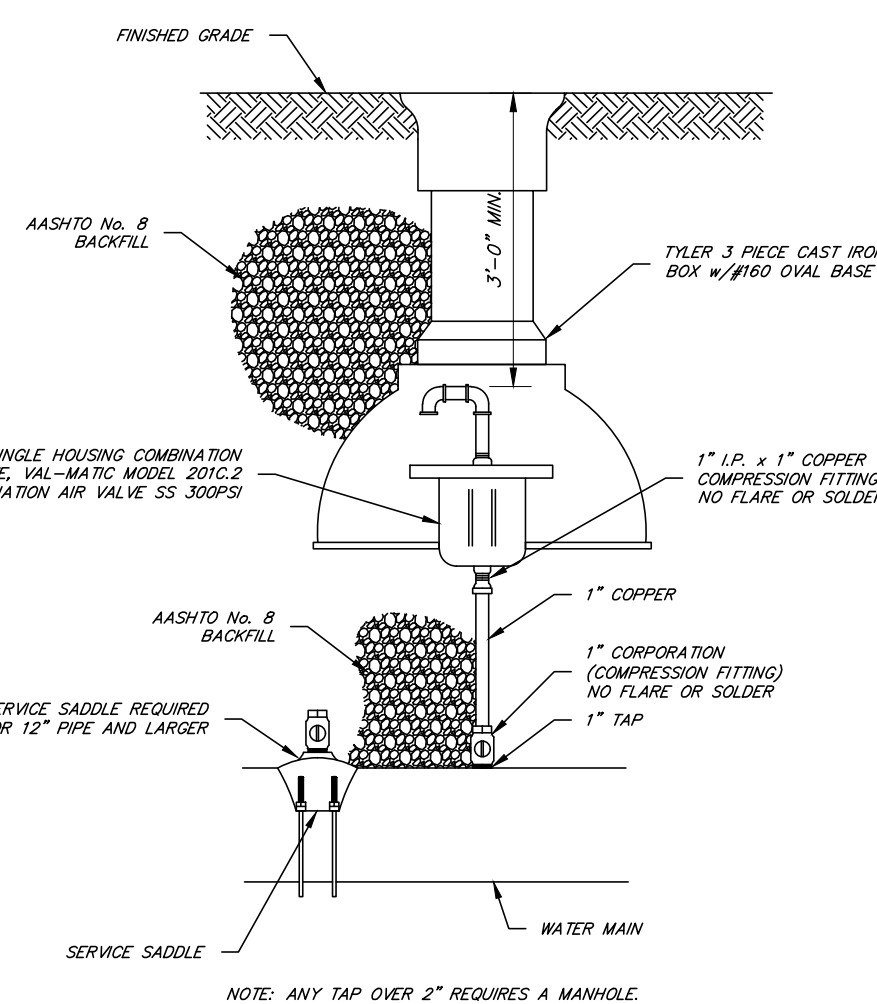
**UTILITY CROSSING VERTICAL OFFSET DETAIL**

NO SCALE



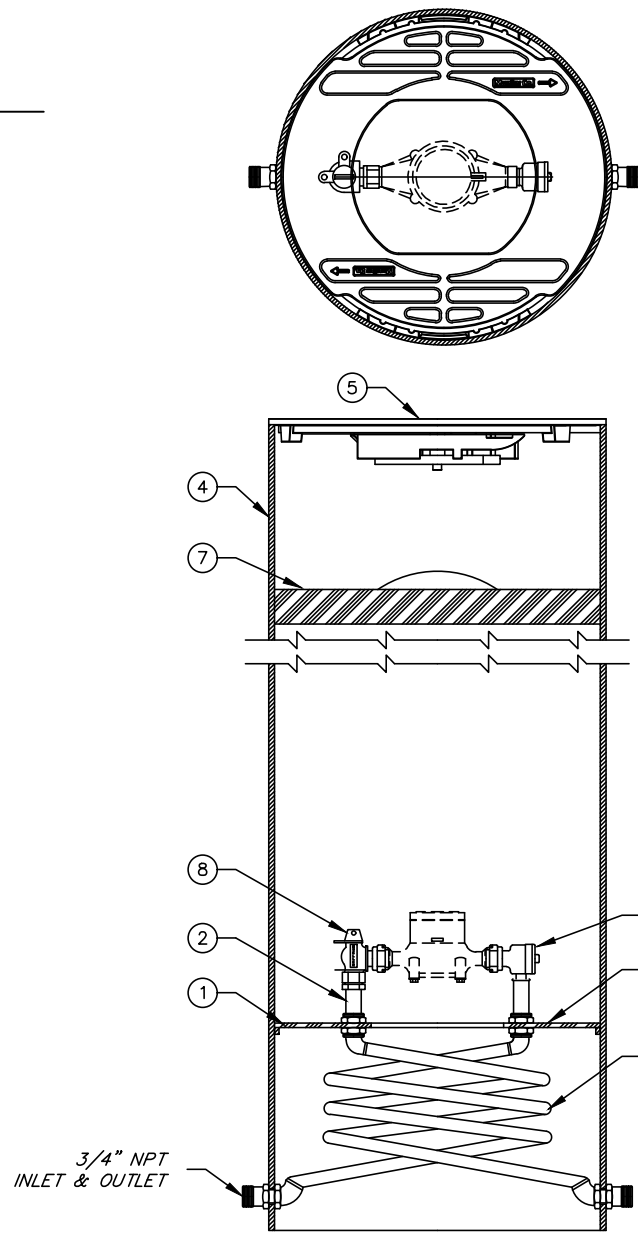
**HYDRANT AT CURB DETAIL**

NO SCALE



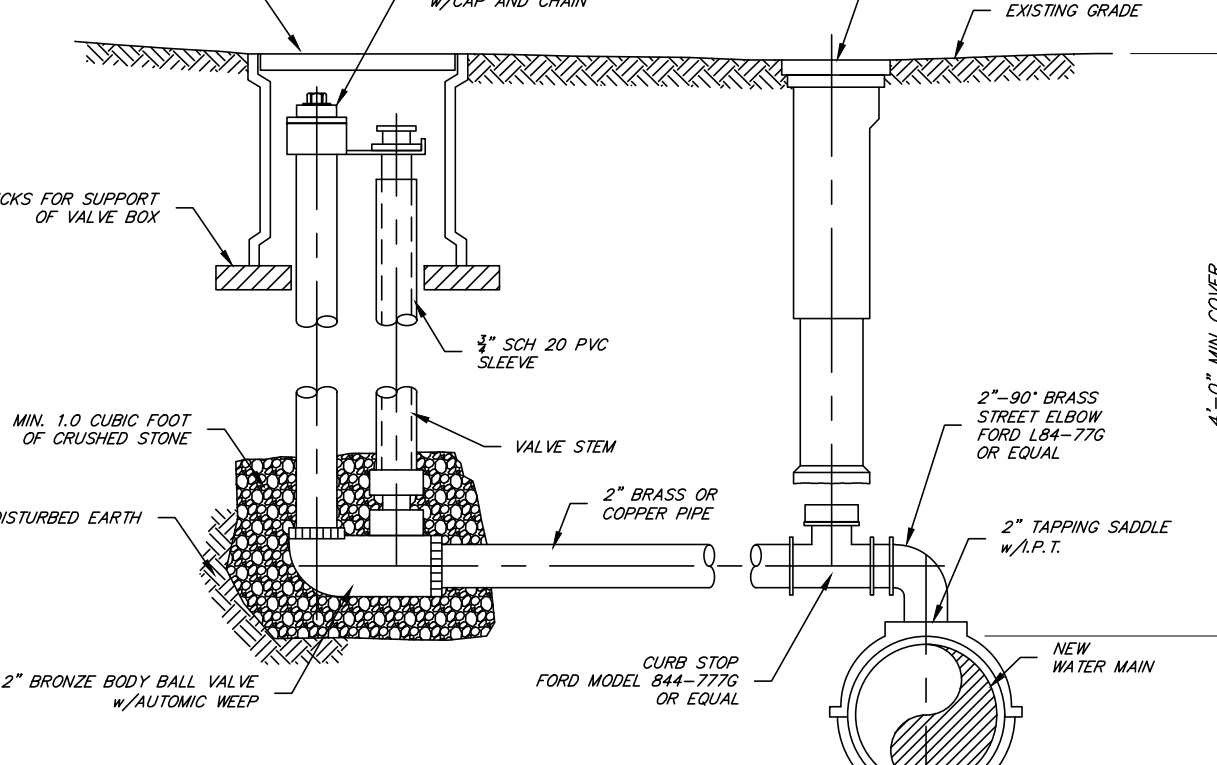
**AIR RELEASE VALVE DETAIL**

NO SCALE



**MUELLER THERMAL COIL METER DETAIL**

NO SCALE



**CONCRETE CRADLE AND BRIDGE DETAIL**

NO SCALE

**NOTES:**

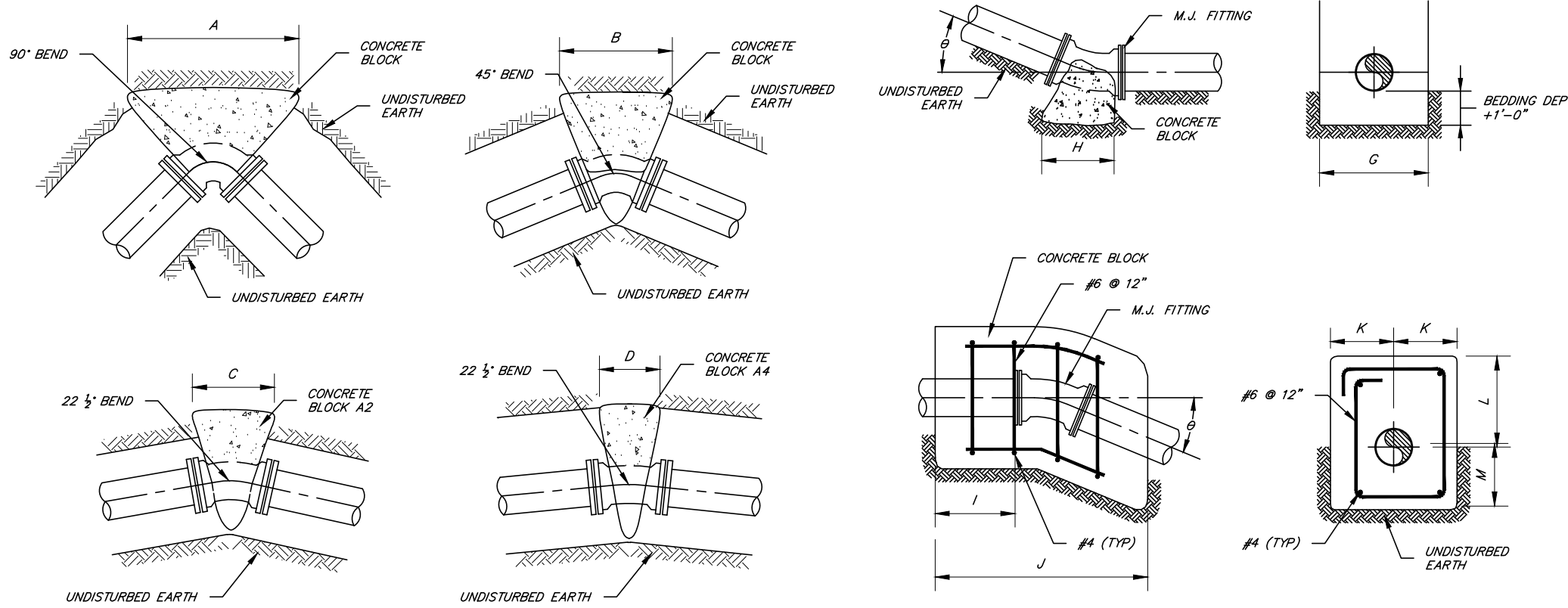
- 80 LF OF RESTRAINED JOINT PIPE (TYP EACH SIDE) (120 LF IF POLYETHYLENE ENCASED OR PVC PIPE) UP TO AND INCLUDING 12" DIAMETER PIPE.
- ALL PIPE JOINTS BETWEEN BENDS MUST BE RESTRAINED. ALTERNATE RESTRAINING METHODS MAY BE USED WITH APPROVAL BY THE CITY OF LEBANON AUTHORITY.
- INSTALL AIR VALVE PER STANDARD DETAILS UNLESS OTHERWISE DIRECTED BY THE AUTHORITY.
- INSTALL WATER MAIN UNDER STORMWATER PIPES.

**NOTES:**

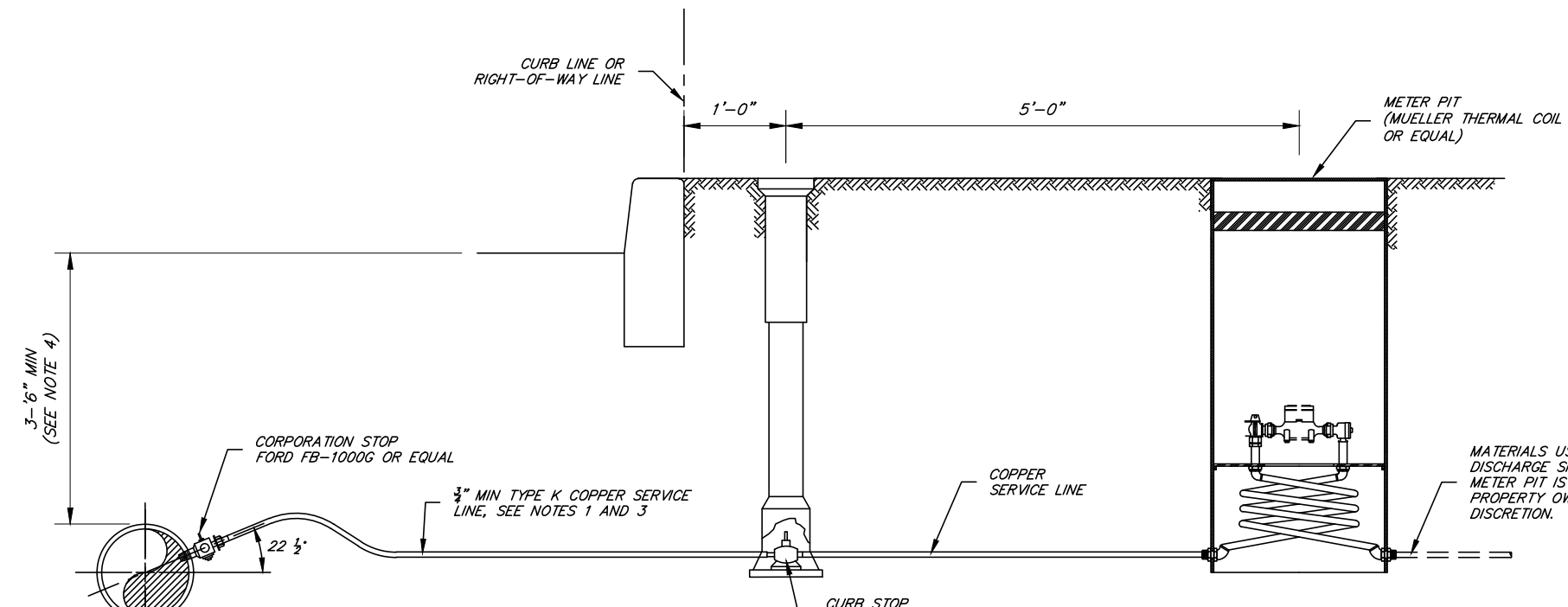
- REACTION BACKING DIMENSIONS HAVE BEEN CALCULATED USING A SOIL BEARING CAPACITY OF 2000 POUNDS PER SQUARE FOOT AND TEST PRESSURES AS NEEDED.
- ALL FITTINGS SHALL BE MECHANICAL JOINT AND HAVE WEDGE ACTION FOLLOWER GLANDS INSTALLED TO MANUFACTURERS SPECIFICATIONS, EXCEPT IN RESTRAINED JOINT AREAS.
- ALL CONCRETE SHALL BE HIGH EARLY STRENGTH.
- ALTERNATE RESTRAINING METHODS MAY BE USED IN PLACE OF CONCRETE THRUST BLOCKS WITH APPROVAL BY THE CITY OF LEBANON AUTHORITY.

**REACTION BACKINGS DETAIL**

NOT TO SCALE



PIPE DIA (INCHES)	TEST PRESSURE (PSI)	REACTING DIMENSIONS (INCHES)																		
		A	B	C	D	E	F	G	H	I	J	K	L	M						
24	150	11'-0"	8'-0"	3'-0"	1'-8"	8'-0"	5'-0"	4'-0"	7'-6"	3'-9"	2'-0"	9'-0"	4'-0"	1'-6"	20'-0"	10'-0"	5'-0"	2'-0"	3'-0"	2'-0"
20	150	8'-8"	4'-8"	2'-8"	1'-4"	6'-3"	4'-8"	3'-8"	5'-9"	3'-0"	1'-6"	16'-4"	8'-4"	4'-3"	1'-10"	2'-10"	1'-10"	1'-10"	1'-10"	1'-10"
16	150	6'-2"	3'-6"	2'-0"	1'-0"	4'-3"	4'-0"	3'-4"	4'-3"	2'-2"	1'-2"	5'-6"	2'-6"	0'-10"	12'-6"	6'-6"	3'-3"	1'-8"	2'-8"	1'-8"
12	150	5'-0"	2'-8"	1'-3"	1'-0"	3'-6"	3'-0"	3'-0"	2'-8"	1'-4"	1'-0"	3'-6"	1'-8"	0'-9"	8'-9"	4'-6"	2'-3"	1'-6"	2'-6"	1'-6"
10	150	4'-3"	2'-6"	1'-6"	1'-0"	3'-0"	2'-6"	2'-10"	2'-2"	1'-0"	1'-0"	3'-9"	1'-0"	0'-3"	7'-0"	3'-6"	2'-0"	1'-5"	2'-5"	1'-5"
8	150	3'-6"	2'-0"	1'-0"	1'-0"	2'-6"	2'-0"	2'-8"	1'-6"	1'-0"	1'-0"	0'-6"	0'-4"	5'-0"	2'-6"	2'-0"	1'-4"	2'-4"	1'-4"	1'-4"
6	150	2'-8"	1'-6"	1'-0"	1'-0"	2'-0"	1'-6"	2'-6"	1'-0"	1'-0"	1'-0"	0'-6"	0'-4"	3'-0"	2'-0"	2'-0"	1'-3"	2'-3"	1'-3"	1'-3"
4	150	2'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	2'-4"	1'-0"	1'-0"	1'-0"	0'-4"	0'-4"	2'-0"	2'-0"	2'-0"	1'-3"	2'-2"	1'-2"	1'-2"

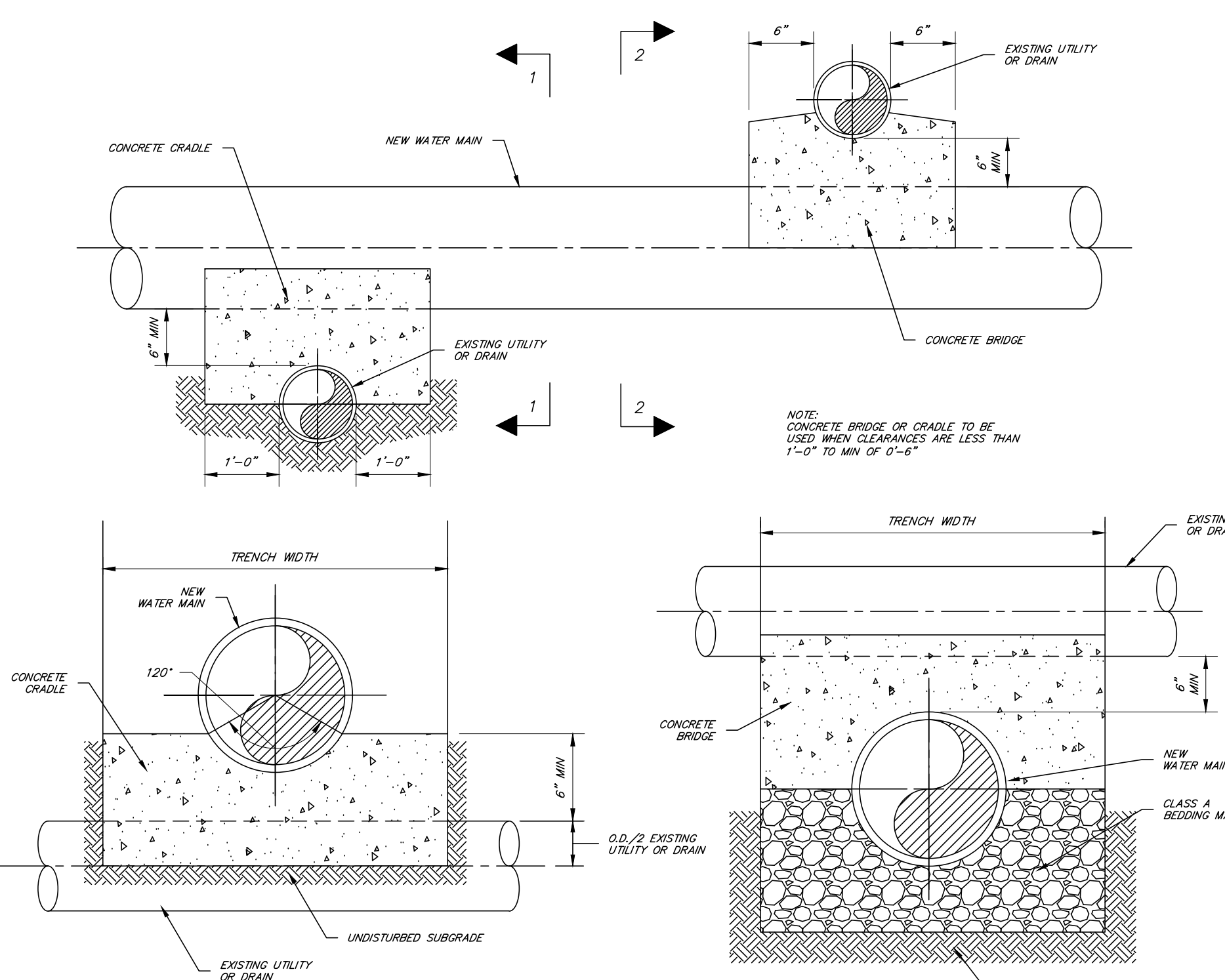


**WATER SERVICE WITH METER PIT CONNECTION DETAIL**

NO SCALE

ITEM	DESCRIPTION	QTY
1	ABS PLATFORM 18-40	1
2	3/4" HOSE CONNECTOR	4
3	3/4" COIL PART	2
4	SHELL SUB-ASSEMBLY	1
5	18" DIA CENTER LOCKING LID (NOT INCLUDED)	1
6	3/4" HEX NUT	8
7	18"x4" INSULATION PAD (SOLD SEPARATELY)	1
8	5/8"x3/4" FULL PORT BALL VALVE	1
9	5/8"x3/4" DUAL CHECK VALVE	1

**NOTE:**  
METER NOT INCLUDED  
HOLE SHOULD NOT BE DRILLED IN LID



**CONCRETE CRADLE AND BRIDGE DETAIL**

NO SCALE

DATE	BY
3/09/23	CDS
REVISION	
DATE	BY
12/2/22	CDS
3/09/23	CDS
7/13/23	CDS/EJG

REVISION	DATE	BY
1	12/2/22	CDS
2	3/09/23	CDS
3	7/13/23	CDS/EJG

**WATER DETAILS**  
PRELIMINARY SUBDIVISION  
For  
**THE ESTATES AT HEARTHSTONE**  
located in  
NORTH LEBANON TOWNSHIP  
LEBANON County, Pennsylvania

**CS**  
Steckbeck Engineering & Surveying, Inc.  
279 Lebanon, Pennsylvania 17042  
Phone: (717) 272-7110  
Fax: (717) 272-7348

FIELD CREW:	MOD, JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	AS NOTED
PROJECT #	#784-22-001

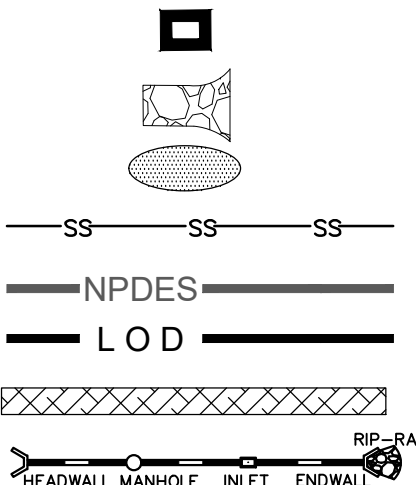
**LEGEND**

- EXISTING FEATURES**
- EXISTING ADJOINER LINE AND CORNERS
  - EXISTING BOUNDARY LINE AND CURB LINE
  - EXISTING EDGE OF PAVEMENT AND CURB LINE
  - EXISTING RIGHT-OF-WAY
  - EXISTING FENCE
  - EXISTING SEWER
  - EXISTING STORMWATER
  - EXISTING WATERLINE
  - EXISTING GASLINE
  - EXISTING SIDEWALK/CONCRETE
  - EXISTING CONTOURS
  - EXISTING TREELINE
  - EXISTING TOWNSHIP BOUNDARY
  - LIMITS OF FIELD SURVEY
  - EXISTING SOILS
  - EXISTING UTILITY POLE
  - EXISTING LIGHT POLE

- IRON PIN
- CONCRETE MONUMENT
- CLEAN OUT
- MANHOLE
- RIP-RAP
- HEADWALL
- MANHOLE
- INLET
- ENDWALL
- GATE VALVE
- FIRE HYDRANT
- GAS VALVE
- MAJOR
- MINOR

**PROPOSED FEATURES**

- PROPOSED BUILDING SETBACK
- PROPOSED BOUNDARY LINE AND CORNERS
- PROPOSED EDGE OF PAVEMENT AND CURB LINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED FENCE
- PROPOSED SEWER
- PROPOSED STORMWATER
- PROPOSED DOMESTIC WATERLINE
- PROPOSED GASLINE
- PROPOSED CONCRETE/SIDEWALK
- PROPOSED CONTOURS
- PROPOSED TREELINE
- PROPOSED UTILITY POLE
- PROPOSED LIGHT POLE



**E&S LEGEND**

- INLET PROTECTION
- ROCK CONST. ENTRANCE
- TOPSOIL STOCKPILE
- COMPOST FILTER SOCK
- NPDES BOUNDARY
- DISTURBANCE LIMITS
- SPILLWAY LINING
- PROPOSED STORMWATER

**EROSION AND SEDIMENT CONTROL LIABILITY NOTE:**  
FAILURE TO CORRECTLY INSTALL SEDIMENT CONTROL FACILITIES OR FAILURE TO PREVENT SEDIMENT LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE OR FAILURE TO TAKE CORRECTIVE ACTIONS TO IMMEDIATELY RESOLVE FAILURES OF SEDIMENT CONTROL FACILITIES MAY RESULT IN ADMINISTRATIVE, CIVIL AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION AS DEFINED IN SECTION 602 OF THE CLEAN STREAMS LAW OF PENNSYLVANIA. THE CLEAN STREAMS LAW PROVIDES FOR UP TO \$10,000 PER DAY IN CIVIL PENALTIES, UP TO \$10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO \$25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.

SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED OR SWEEPED INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.

THESE PLANS INDICATE CRITICAL AREAS FOR EROSION AND SEDIMENT CONTROL PLACEMENT BUT DO NOT RELIEVE THE CONTRACTOR FROM PROVIDING ADDITIONAL CONTROLS AS SITE CONDITIONS WARRANT. THE ENVIRONMENTAL COMPLIANCE MANAGER FOR THE PROJECT AND OR CONSERVATION DISTRICT MAY DIRECT THE CONTRACTOR TO INSTALL E&S BMPs NOT DEPICTED ON THESE DRAWINGS IN ORDER TO PROTECT DOWN GRADIENT AREAS FROM EROSION AND SEDIMENTATION DURING CONSTRUCTION.

**GRAPHIC SCALE**



1 inch = 50 feet

1 inch = 50 feet

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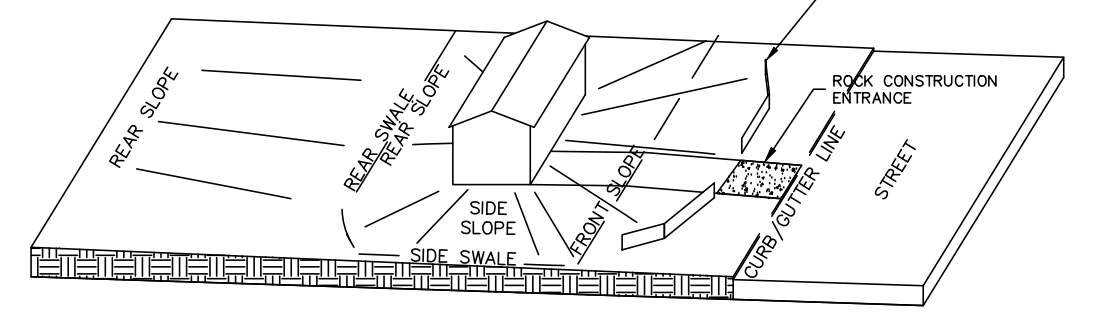
1 inch = 50 feet

1 inch = 50 feet

1 inch = 50 feet

1 inch = 50 feet

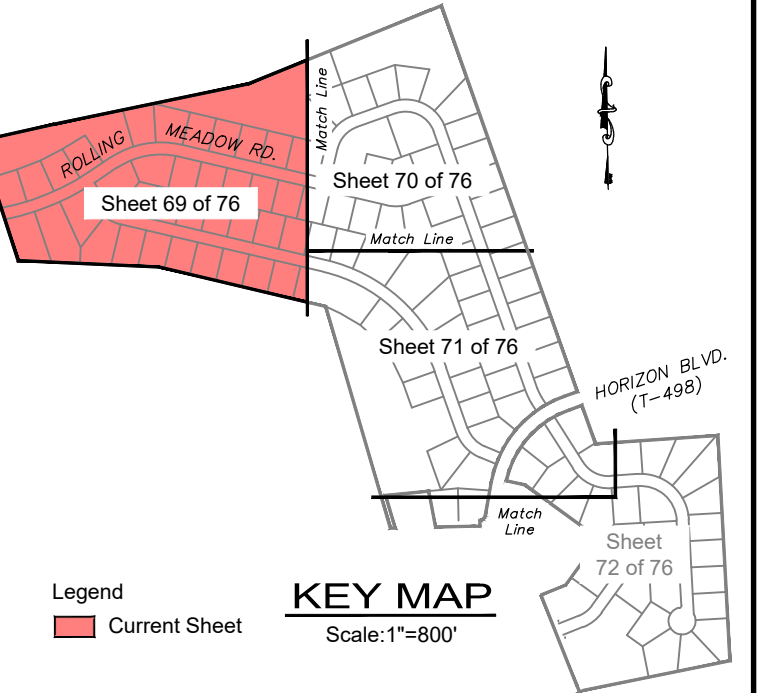
1 inch = 50 feet



**TYPICAL LOT E&S PLAN**

NO SCALE

Map Symbol	Soil Name	Slope	Hydrologic Group
BaB	Bedington shaly silt loam	3-8%	B
BaC	Berks channery silt loam	3-8%	B
BaD	Berks channery silt loam	8-15%	B
BaE	Berks channery silt loam	15-25%	B
CaA	Comly silt loam	0-3%	C
WeC	Wickers channery silt loam	8-15%	D



**KEY MAP**

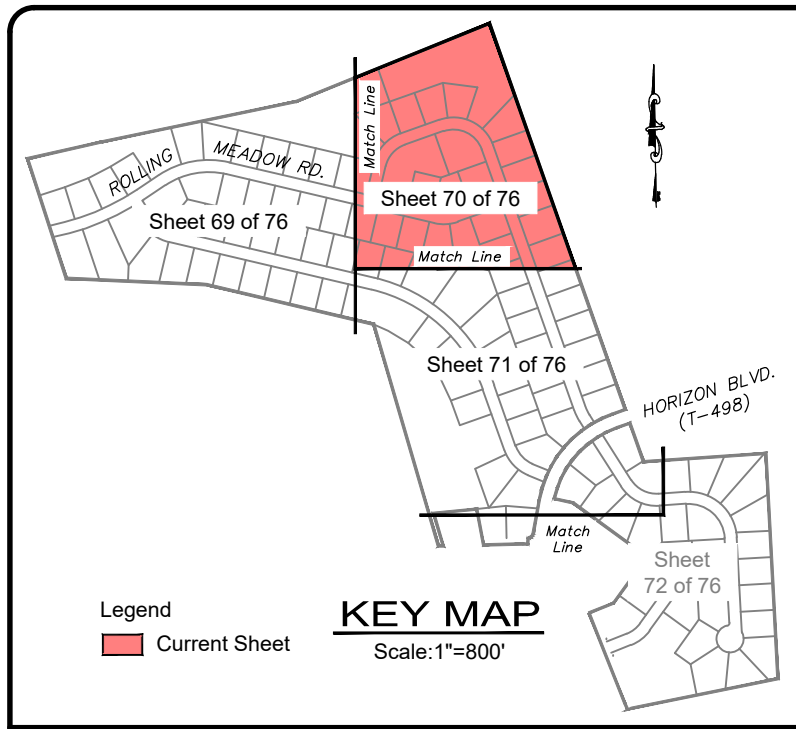
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REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER CPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/ACCD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**EROSION & SEDIMENTATION CONTROL PLAN**  
PRELIMINARY SUBDIVISION  
THE ESTATES AT HEARTSIDE  
NORTH LEBANON TOWNSHIP  
LEBANON County, Pennsylvania

ESI  
Engineering & Surveying, Inc.  
279 Lebanon, Pennsylvania 17042  
Phone: (717) 272-7110  
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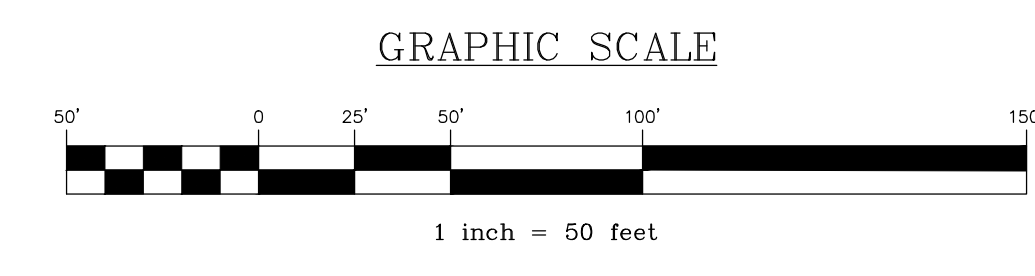
FIELD CREW: MOD/JEC  
BASE MAP: JEC  
DRAWN: CDS  
DESIGN: CDS  
CHECKED: SAS  
DATE: 11/4/22  
SCALE: 1"=50'  
PROJECT # 784-22-001



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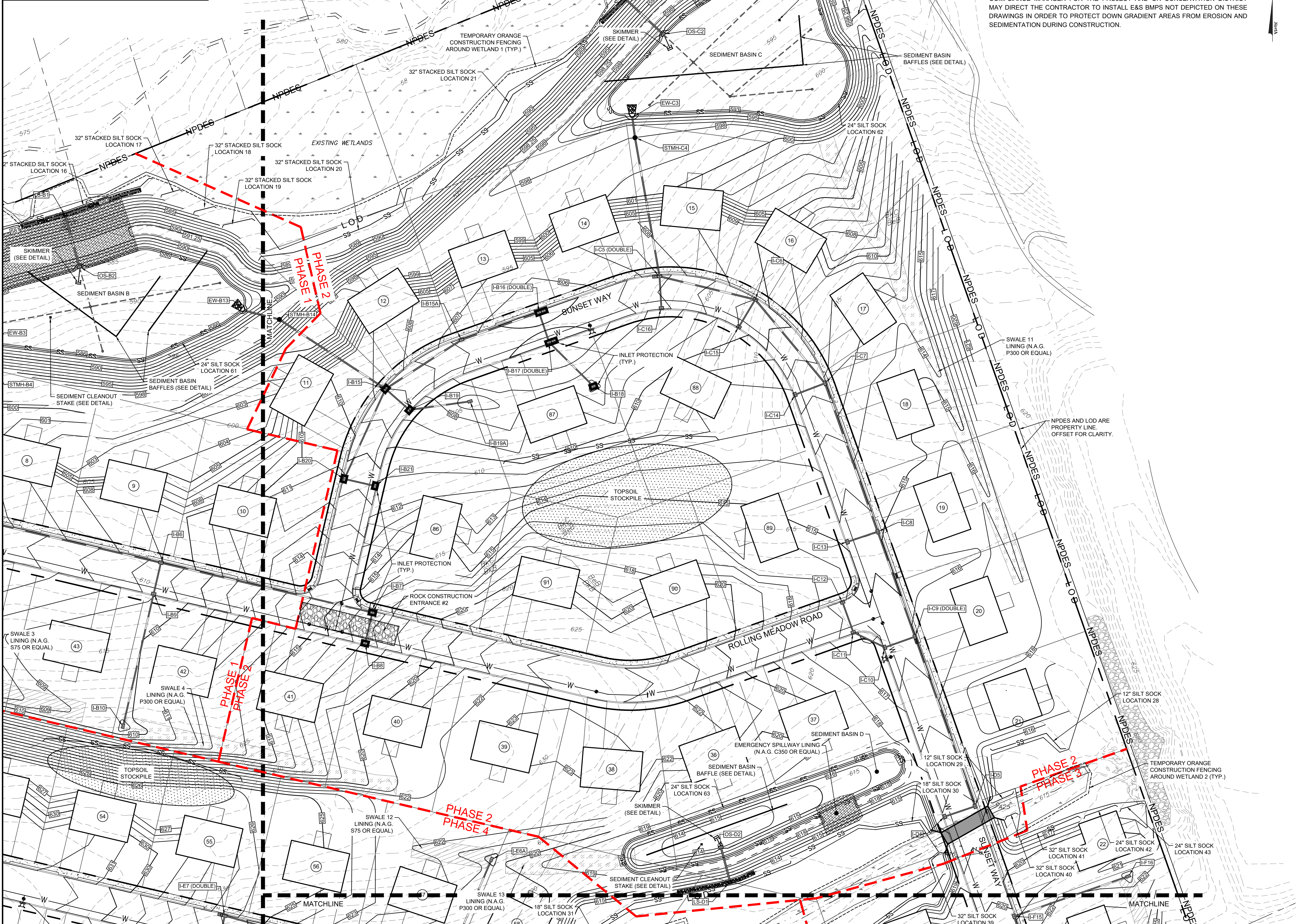
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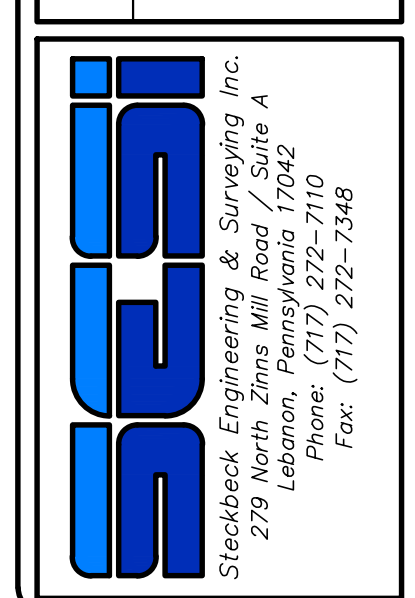


**LEGEND**

EXISTING FEATURES	
	EXISTING ADJOINER LINE
	EXISTING BOUNDARY LINE AND CORNERS
	EXISTING EDGE OF PAVEMENT AND CURB LINE
	EXISTING RIGHT-OF-WAY
	EXISTING FENCE
	EXISTING SEWER
	EXISTING STORMWATER
	EXISTING WATERLINE
	EXISTING GASLINE
	EXISTING SIDEWALK/CONCRETE
	EXISTING CONTOURS
	EXISTING TREELINE
	EXISTING TOWNSHIP BOUNDARY
	LIMITS OF FIELD SURVEY
	EXISTING SOILS
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
PROPOSED FEATURES	
	PROPOSED BUILDING SETBACK
	PROPOSED BOUNDARY LINE AND CORNERS
	PROPOSED EDGE OF PAVEMENT AND CURB LINE
	PROPOSED RIGHT-OF-WAY
	PROPOSED FENCE
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E&S LEGEND	
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	ROCK CONST. ENTRANCE
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	COMPOST FILTER SOCK
	NPDES BOUNDARY
	DISTURBANCE LIMITS
	SPILLWAY LINING
	PROPOSED STORMWATER

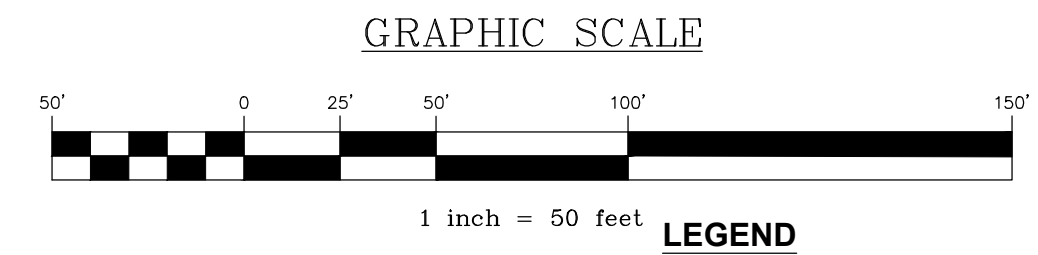
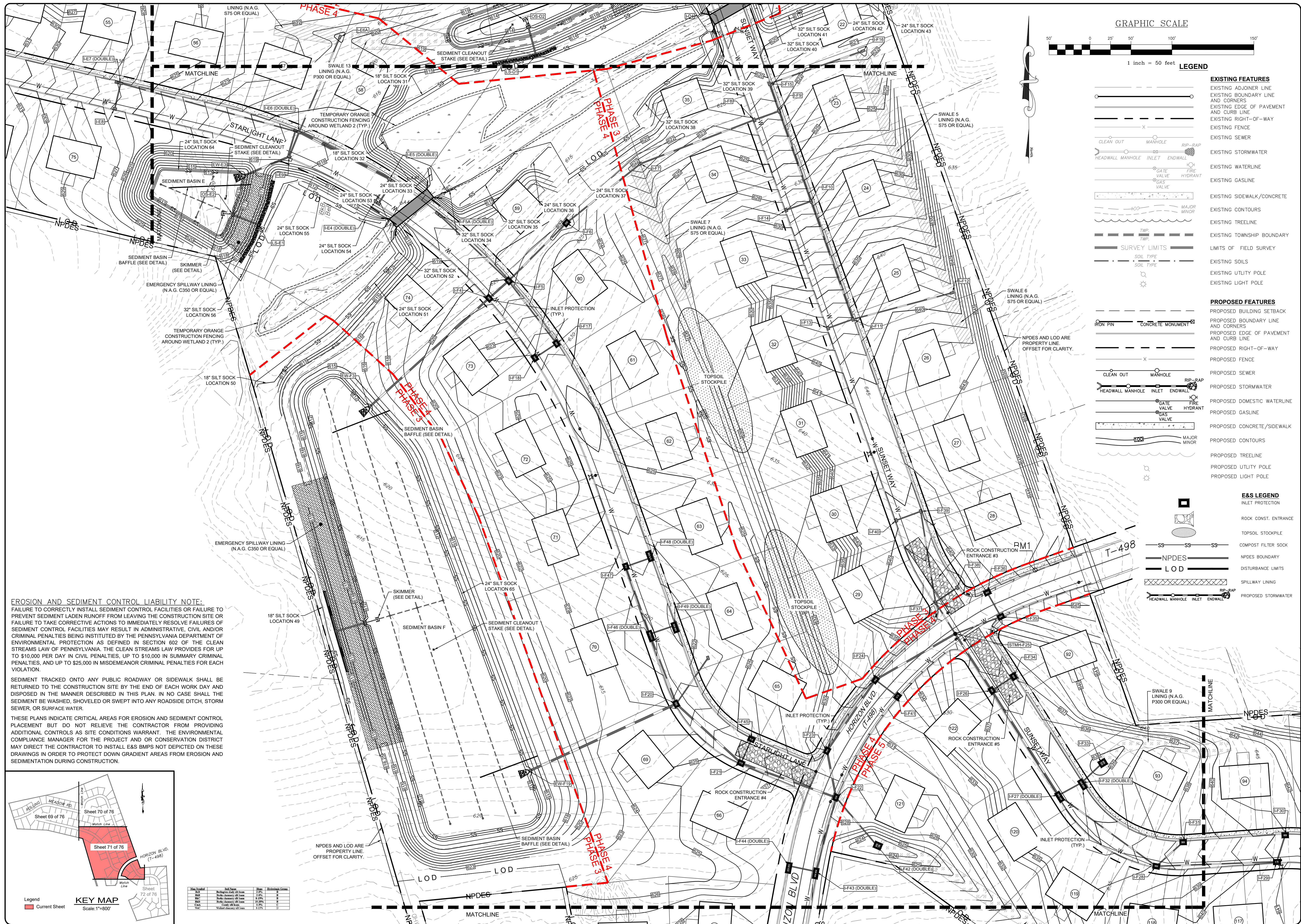


**EROSION & SEDIMENTATION CONTROL PLAN**  
 PRELIMINARY SUBDIVISION  
 THE ESTATES AT HEARTSIDE  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania



FIELD CREW: MOD,JEC  
 BASE MAP: JEC  
 DRAWN: CDS  
 DESIGN: CDS  
 CHECKED: SAS  
 DATE: 11/4/22  
 SCALE: 1"=50'  
 PROJECT # 784-22-001

Map Symbol	Soil Name	Slope	Hydrologic Group
BbB	Bellington shaly silt loam	3-8%	B
BkC	Berks channery silt loam	3-8%	B
BkD	Berks channery silt loam	8-15%	B
BmC	Berks channery silt loam	15-25%	B
CmA	Conly silt loam	0-3%	C
WcC	Wakert channery silt loam	8-15%	D



**LEGEND**

EXISTING FEATURES	
[Symbol]	EXISTING ADJONER LINE AND CORNERS
[Symbol]	EXISTING BOUNDARY LINE AND CORNERS
[Symbol]	EXISTING EDGE OF PAVEMENT AND CURB LINE
[Symbol]	EXISTING RIGHT-OF-WAY
[Symbol]	EXISTING FENCE
[Symbol]	EXISTING SEWER
[Symbol]	EXISTING STORMWATER
[Symbol]	EXISTING WATERLINE
[Symbol]	EXISTING GASLINE
[Symbol]	EXISTING SIDEWALK/CONCRETE
[Symbol]	EXISTING CONTOURS
[Symbol]	EXISTING TREELINE
[Symbol]	EXISTING TOWNSHIP BOUNDARY
[Symbol]	LIMITS OF FIELD SURVEY
[Symbol]	EXISTING SOILS
[Symbol]	EXISTING UTILITY POLE
[Symbol]	EXISTING LIGHT POLE

**PROPOSED FEATURES**

[Symbol]	PROPOSED BUILDING SETBACK
[Symbol]	PROPOSED BOUNDARY LINE AND CORNERS
[Symbol]	PROPOSED EDGE OF PAVEMENT AND CURB LINE
[Symbol]	PROPOSED RIGHT-OF-WAY
[Symbol]	PROPOSED FENCE
[Symbol]	PROPOSED SEWER
[Symbol]	PROPOSED STORMWATER
[Symbol]	PROPOSED DOMESTIC WATERLINE
[Symbol]	PROPOSED GASLINE
[Symbol]	PROPOSED CONCRETE/SIDEWALK
[Symbol]	PROPOSED CONTOURS
[Symbol]	PROPOSED TREELINE
[Symbol]	PROPOSED UTILITY POLE
[Symbol]	PROPOSED LIGHT POLE

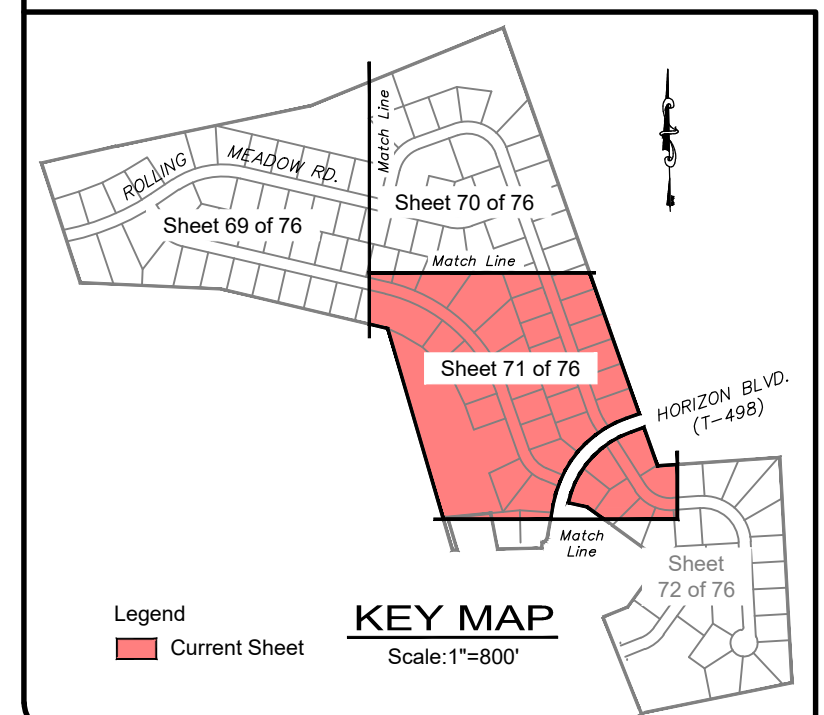
**E&S LEGEND**

[Symbol]	INLET PROTECTION
[Symbol]	ROCK CONST. ENTRANCE
[Symbol]	TOPSOIL STOCKPILE
[Symbol]	COMPOST FILTER SOCK
[Symbol]	NPDES BOUNDARY
[Symbol]	DISTURBANCE LIMITS
[Symbol]	SPILLWAY LINING
[Symbol]	PROPOSED STORMWATER

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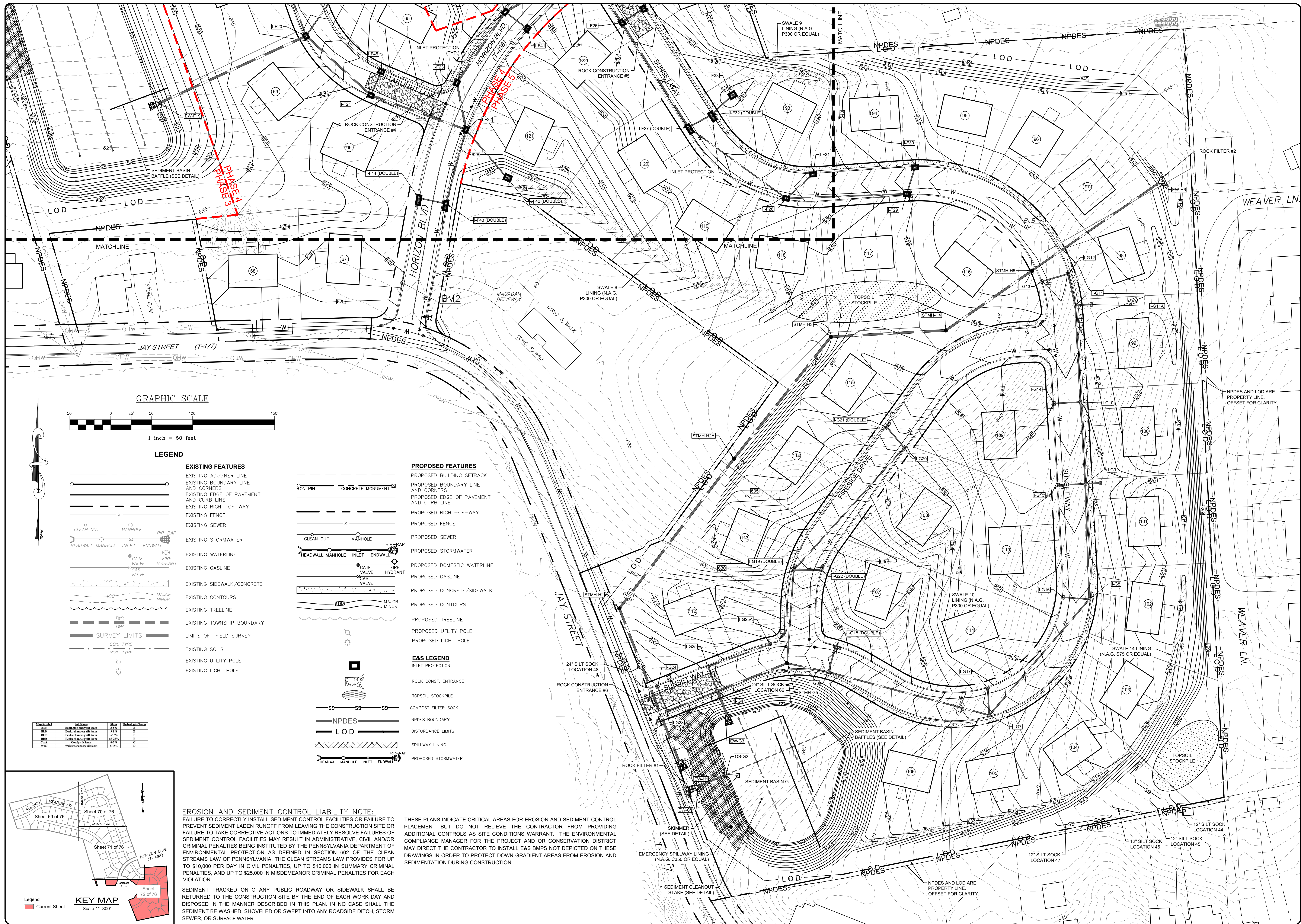
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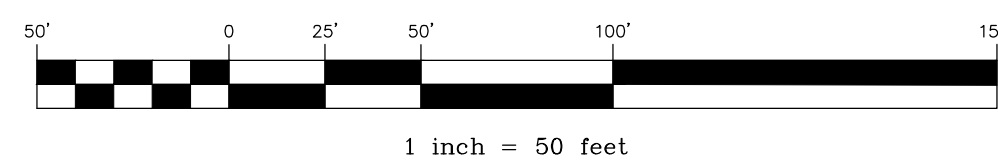
**EROSION & SEDIMENTATION CONTROL PLAN**  
 PRELIMINARY SUBDIVISION  
 For  
**THE ESTATES AT HEARTHIDE**  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

**ESI**  
 Steadbeck Engineering & Surveying, Inc.  
 279 Lebanon, Pennsylvania 17042  
 Phone: (717) 272-7110  
 Fax: (717) 272-7348

FIELD CREW: MOD,JEC  
 BASE MAP: JEC  
 DRAWN: CDS  
 DESIGN: CDS  
 CHECKED: SAS  
 DATE: 11/4/22  
 SCALE: 1"=50'  
 PROJECT # 784-22-001



**GRAPHIC SCALE**



**LEGEND**

- |  |   |  |                                    |
|--|---|--|------------------------------------|
|  | <b>EXISTING FEATURES</b>                |  | <b>PROPOSED FEATURES</b>           |
|  | EXISTING ADJOINER LINE                  |  | PROPOSED BUILDING SETBACK          |
|  | EXISTING BOUNDARY LINE AND CORNERS      |  | PROPOSED BOUNDARY LINE AND CORNERS |
|  | EXISTING EDGE OF PAVEMENT AND CURB LINE |  | PROPOSED RIGHT-OF-WAY              |
|  | EXISTING RIGHT-OF-WAY                   |  | PROPOSED FENCE                     |
|  | EXISTING FENCE                          |  | PROPOSED SEWER                     |
|  | EXISTING SEWER                          |  | PROPOSED STORMWATER                |
|  | EXISTING STORMWATER                     |  | PROPOSED DOMESTIC WATERLINE        |
|  | EXISTING WATERLINE                      |  | PROPOSED GASLINE                   |
|  | EXISTING GASLINE                        |  | PROPOSED CONCRETE/SIDEWALK         |
|  | EXISTING SIDEWALK/CONCRETE              |  | PROPOSED CONTOURS                  |
|  | EXISTING CONTOURS                       |  | PROPOSED TREELINE                  |
|  | EXISTING TREELINE                       |  | PROPOSED UTILITY POLE              |
|  | EXISTING TOWNSHIP BOUNDARY              |  | PROPOSED LIGHT POLE                |
|  | LIMITS OF FIELD SURVEY                  |  |                                    |
|  | EXISTING SOILS                          |  |                                    |
|  | EXISTING UTILITY POLE                   |  |                                    |
|  | EXISTING LIGHT POLE                     |  |                                    |

**E&S LEGEND**

- |  |                      |
|--|----------------------|
|  | INLET PROTECTION     |
|  | ROCK CONST. ENTRANCE |
|  | TOPSOIL STOCKPILE    |
|  | COMPOST FILTER SOCK  |
|  | NPDES BOUNDARY       |
|  | DISTURBANCE LIMITS   |
|  | SPILLWAY LINING      |
|  | PROPOSED STORMWATER  |

**EROSION AND SEDIMENT CONTROL LIABILITY NOTE:**

FAILURE TO CORRECTLY INSTALL SEDIMENT CONTROL FACILITIES OR FAILURE TO PREVENT SEDIMENT LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE OR FAILURE TO TAKE CORRECTIVE ACTIONS TO IMMEDIATELY RESOLVE FAILURES OF SEDIMENT CONTROL FACILITIES MAY RESULT IN ADMINISTRATIVE, CIVIL AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION AS DEFINED IN SECTION 602 OF THE CLEAN STREAMS LAW OF PENNSYLVANIA. THE CLEAN STREAMS LAW PROVIDES FOR UP TO \$10,000 PER DAY IN CIVIL PENALTIES, UP TO \$10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO \$25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.

SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED OR SWEEPED INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.

THESE PLANS INDICATE CRITICAL AREAS FOR EROSION AND SEDIMENT CONTROL PLACEMENT BUT DO NOT RELIEVE THE CONTRACTOR FROM PROVIDING ADDITIONAL CONTROLS AS SITE CONDITIONS WARRANT. THE ENVIRONMENTAL COMPLIANCE MANAGER FOR THE PROJECT AND OR CONSERVATION DISTRICT MAY DIRECT THE CONTRACTOR TO INSTALL E&S BMPs NOT DEPICTED ON THESE DRAWINGS IN ORDER TO PROTECT DOWN GRADIENT AREAS FROM EROSION AND SEDIMENTATION DURING CONSTRUCTION.

REVISION	DATE	BY
REVISED PER ARRO LETTER DATED 12/2/22	3/09/23	CDS
REVISED PER LCPD LETTER DATED 12/15/22	3/09/23	CDS
REVISED PER DEP/LCDD LETTER DATED 5/17/23	7/13/23	CDS/EJG

**EROSION & SEDIMENTATION CONTROL PLAN**

PRELIMINARY SUBDIVISION

For

**THE ESTATES AT HEARSHIDE**

located in

NORTH LEBANON TOWNSHIP

LEBANON County, Pennsylvania

FIELD CREW: MOD,JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 11/4/22
SCALE: 1"=50'
PROJECT # 784-22-001





SEQUENCE OF CONSTRUCTION – PHASE 3

- AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE CONTRACTOR SHALL INVOKE ALL SUB-CONTRACTORS, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE CIVIL ENGINEER, AND A REPRESENTATIVE OF THE LOCAL COUNTY CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION MEETING. PERIMETER E&S CONTROLS MAY BE INSTALLED PRIOR TO THE PRE-CONSTRUCTION MEETING.
- AT LEAST 3 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY DEP PRIOR TO IMPLEMENTATION.
- INSTALL EXTENDED ROCK CONSTRUCTION ENTRANCES #3 & #4 AS SHOWN ON THE ATTACHED PLAN.
- THE LIMITS OF DISTURBANCE (LOD) SHOULD BE MARKED PRIOR TO DISTURBANCE ACTIVITIES (I.E. SURVEY STAKES, POSTS & ROPE, CONSTRUCTION FENCE, ETC.). INSTALL TEMPORARY ORANGE CONSTRUCTION FENCING AROUND WETLAND 2 AS SHOWN ON THE E&S PLANS.
- LOCATE, STAKE, AND FLAG AREAS MARKED AS PCSM BMP'S (I.E. INFILTRATION BASIN F). REFER TO PCSM PLAN FOR ADDITIONAL INFORMATION AND LOCATION OF PCSM BMP'S. THESE AREAS SHOULD NOT BE COMPACTED DURING CONSTRUCTION. NO CONSTRUCTION TRAFFIC SHALL OCCUR IN THESE AREAS EXCEPT AS NECESSARY FOR EXCAVATION/GRADING.
- INSTALL PERIMETER SILT SOCK ON THE SITE AT LOCATIONS 37-42 AND 49-50 AS INDICATED ON THE ATTACHED PLAN. SILT SOCK IS TO BE INSTALLED ALONG THE CONTOUR WHERE POSSIBLE. AT A LEVEL GRADE, THE SILT SOCK SHOULD BE POSITIONED IN SUCH A WAY AS TO PREVENT ANY SEDIMENT FROM LEAVING THE SITE. SEDIMENT ACCUMULATING TO HALF THE HEIGHT OF THE SILT SOCK SHALL BE REMOVED IN ORDER TO RESTORE THE SEDIMENT STORAGE CAPACITY OF THESE AREAS. IN THE CASE OF A FAILURE OF THE SILT SOCK DUE TO HIGH FLOWS, A NEW SECTION OF SILT SOCK SHALL BE INSTALLED ACROSS THE FAILED PORTION OF THE SILT SOCK. AT NO POINT SHALL UN-STABILIZED AREA DRAIN OFFSITE UNCONTROLLED. THE SILT SOCK IN LOCATION 65 IS TO ENSURE SEDIMENTATION OF THE BASIN BOTTOM AREA DOES NOT OCCUR AND SHOULD BE INSTALLED ONCE THE CONVERSION TO THE PERMANENT STORMWATER BASIN IS COMPLETE.
- PER NPDES REQUIREMENTS, "UPON THE INSTALLATION OR STABILIZATION OF ALL PERMITTER SEDIMENT CONTROL BMP'S AND AT LEAST 3 DAYS PRIOR TO PROCEEDING WITH THE BULK EARTH DISTURBANCE ACTIVITIES, THE PERMITTEE OR CO-PERMITTEE SHALL PROVIDE NOTIFICATION TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT."
- INSTALL SEDIMENT BASIN F WHICH WILL SERVE AS A SEDIMENT BASIN DURING CONSTRUCTION AND BE CONVERTED TO A PERMANENT STORMWATER BASIN UPON TRIBUTARY STABILIZATION. DISTURB ONLY THE MINIMUM AREA NECESSARY TO INSTALL THE SEDIMENT BASIN. THE SEDIMENT BASIN MUST BE CONSTRUCTED PRIOR TO ANY MAJOR EARTH DISTURBANCE, STRIPPING, OR CLEARING. INSTALL THE OUTLET PIPE FROM THE BASIN ALONG WITH THE ASSOCIATED OUTLET STRUCTURE. CONSTRUCT IMPERVIOUS CLAY CORE, ANTI-SEEP COLLARS, AND BACKFILL EMBANKMENT, COMPACTING TO 95% MAX DRY DENSITY. INSTALL NORTH AMERICAN GREEN C350 SLOPE PROTECTION AT EMERGENCY SPILLWAY. INSTALL TYPE LEVEL SPREADER AT BASIN OUTLET. INSTALL SEED IN THE INTERIOR SLOPES AND BERM OF BASIN. INSTALL TYPE M OUTLET STRUCTURE, CLEAN OUT STAKE, BASIN BAFFLE(S), AND SKIMMER WITHIN THE SEDIMENT BASIN. PLEASE REFER TO THE E&S SHEETS FOR ADDITIONAL DETAIL. A LICENSED PROFESSIONAL OR DESIGNER SHALL BE PRESENT ONSITE DURING SEDIMENT BASIN EXCAVATION AND INSTALLATION OF THE OUTLET PIPE, ANTI-SEEP COLLARS, AND CLAY CORE.
- IF SOIL IS TAKEN TO OR BORROWED FROM ANOTHER CONSTRUCTION SITE, SAID SITE MUST HAVE AN APPROVED E&SPC PLAN. SEE THE "SOIL LIMITATIONS AND RESOLUTIONS" SECTION OF THIS E&S PLAN FOR FURTHER INFORMATION.
- CLEAR AND STRIP TOPSOIL ACROSS THE AREA OF THE BUILDING PADS AND STREETS WITHIN PHASE 3 AND PLACE ON THE TOPSOIL STOCKPILES AS SHOWN ON THE ATTACHED PLAN AND IN ACCORDANCE WITH PLAN DETAILS. INSTALL SILT SOCK BELOW EACH TOPSOIL STOCKPILE AS SHOWN ON THE ATTACHED PLAN.
- ROUGH GRADE THE DISTURBED AREA TO CONSTRUCT THE BUILDINGS, DRIVEWAYS, AND STREETS WITHIN PHASE 3. INSTALL SWALES 5-7 DURING ROUGH GRADING. ENSURE THE SWALE LINING IS INSTALLED IN EACH SWALE IN ACCORDANCE WITH THE PLAN DETAILS.
- INSTALL WATER, SANITARY SEWER, STORM SEWER, AND ALL OTHER UTILITIES AT THIS TIME. ENSURE INLET PROTECTION IS PROVIDED FOR ALL STORM INLETS. DURING AND FOLLOWING STORM EVENTS PROVIDE A MEANS TO DEWATER PITS AND UTILITY TRENCHES. SPILL MATERIAL FROM EXCAVATION OF THE TRENCHES SHALL BE PLACED ON THE UP-SLOPE SIDE OF THE TRENCH. THE LENGTH OF OPEN TRENCH SHALL BE LIMITED TO THAT WHICH WILL BE BACKFILLED THE SAME DAY, AND ANY AFFECTED BMP'S SHALL BE IMMEDIATELY STABILIZED AND REPAIRED. THE TOPSOIL EXCAVATED FROM THE TRENCH SHALL BE CAREFULLY REMOVED AND STOCKPILED SEPARATELY FROM THE SUBSOIL. THE TOPSOIL SHALL BE RESTORED TO THE GRADED AREAS TO PRE-CONSTRUCTION CONDITIONS. WATER PUMPED FROM PITS AND TRENCHES SHALL BE FILTERED BY MEANS OF A FILTER BAG. IMMEDIATELY AFTER TRENCHES HAVE BEEN BACKFILLED, FINE-GRADE AREA.
- INSTALL THE STONE SUB-BASE FOR THE STREETS, DRIVEWAYS, AND CONCRETE SLABS AS PER PLAN REQUIREMENTS.
- CONSTRUCT THE PROPOSED BUILDINGS AND ATTACHED UTILITIES (ROOF DRAINS, SANITARY CONNECTIONS, WATER CONNECTIONS, ETC.) IMMEDIATELY UPON COMPLETION OF EARTH DISTURBANCE ACTIVITIES FINAL GRADE AND STABILIZE THE LOT.
- FINE GRADE ANY REMAINING AREAS AS SHOWN ON THE GRADING PLAN. DURING THIS TIME, FRAME EARTH MOVING EQUIPMENT WILL BE EMPLOYED TO REMOVE TOPSOIL AND EXCESS "FILL" MATERIAL. IF ANY EXISTS, SPREAD A MINIMUM OF 4-8 INCHES OF TOPSOIL ON FRESHLY GRADED AREAS. REFER TO THE TOPSOIL APPLICATION NOTES ON THE PLAN. FINAL PASSES DURING FINE GRADING SHALL BE MADE AT RIGHT ANGLES TO THE SLOPES. PREPARE THE REMAINDER OF THE DISTURBED AREA FOR PERMANENT STABILIZATION. SEEDBED SHALL BE PREPARED IN ACCORDANCE WITH ACCEPTED PRACTICES. EACH SEED MIXTURE SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RATES AND INSTRUCTIONS.
- DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINAL GRADE OR WHICH WILL NOT BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
- PAVE THE STREETS. DO NOT INSTALL SURFACE (WEARING) COURSE UNTIL THE AREA IS STABILIZED (DEFINED AS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER, WITH A DENSITY CAPABLE OF RESISTING ACCELERATED EROSION AND SEDIMENTATION IN ALL AREAS TRIBUTARY TO THE CONTROLS). IF EARTHMOVING ACTIVITIES CEASE FOR FOUR (4) DAYS OR MORE TEMPORARY STABILIZATION SHALL BE APPLIED. SEE "STABILIZATION SPECIFICATIONS" IN THE E&S PLAN FOR FURTHER DETAILS.
- ALL SEDIMENT DEPOSITED WITHIN STORM SEWER CONVEYANCE PIPES SHALL BE REMOVED PRIOR TO COMPLETION OF THE PROJECT AND PRIOR TO CONVERSION OF THE SEDIMENT BASINS TO PERMANENT STORMWATER BASINS. ANY WATER PUMPED FROM THE SEDIMENT BASIN OR OTHER AREA OF THE SITE SHALL BE PUMPED THROUGH A FILTER BAG AND THE COLLECTED SEDIMENT SHALL BE DISPOSED OF PROPERLY. ALL AREAS DISTURBED DURING THIS PROCESS SHALL BE STABILIZED IMMEDIATELY THROUGH SEEDING AND MULCHING. THE COUNTY CONSERVATION DISTRICT SHOULD BE CONTACTED PRIOR TO CONVERSION OR REMOVAL OF ANY E&S BMP'S AND MAY REQUIRE A SITE INSPECTION. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROLS ONCE THE SITE IS COMPLETELY STABILIZED (DEFINED AS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER, WITH A DENSITY CAPABLE OF RESISTING ACCELERATED EROSION AND SEDIMENTATION IN ALL AREAS TRIBUTARY TO THE CONTROLS) WITH APPROVAL OF THE COUNTY CONSERVATION DISTRICT.

SEQUENCE OF CONSTRUCTION – PHASE 5

- AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE CONTRACTOR SHALL INVOKE ALL SUB-CONTRACTORS, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE CIVIL ENGINEER, AND A REPRESENTATIVE OF THE LOCAL COUNTY CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION MEETING. PERIMETER E&S CONTROLS MAY BE INSTALLED PRIOR TO THE PRE-CONSTRUCTION MEETING.
- AT LEAST 3 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY DEP PRIOR TO IMPLEMENTATION.
- INSTALL EXTENDED ROCK CONSTRUCTION ENTRANCE #5 AS SHOWN ON THE ATTACHED PLAN.
- THE LIMITS OF DISTURBANCE (LOD) SHOULD BE MARKED PRIOR TO DISTURBANCE ACTIVITIES (I.E. SURVEY STAKES, POSTS & ROPE, CONSTRUCTION FENCE, ETC.).
- LOCATE, STAKE, AND FLAG AREAS MARKED AS PCSM BMP'S (I.E. INFILTRATION BASIN G). REFER TO PCSM PLAN FOR ADDITIONAL INFORMATION AND LOCATION OF PCSM BMP'S. THESE AREAS SHOULD NOT BE COMPACTED DURING CONSTRUCTION. NO CONSTRUCTION TRAFFIC SHALL OCCUR IN THESE AREAS EXCEPT AS NECESSARY FOR EXCAVATION/GRADING.
- INSTALL PERIMETER SILT SOCK ON THE SITE AT LOCATIONS 44-48 AS INDICATED ON THE ATTACHED PLAN. SILT SOCK IS TO BE INSTALLED ALONG THE CONTOUR WHERE POSSIBLE. AT A LEVEL GRADE, THE SILT SOCK SHOULD BE POSITIONED IN SUCH A WAY AS TO PREVENT ANY SEDIMENT FROM LEAVING THE SITE. SEDIMENT ACCUMULATING TO HALF THE HEIGHT OF THE SILT SOCK SHALL BE REMOVED IN ORDER TO RESTORE THE SEDIMENT STORAGE CAPACITY OF THESE AREAS. IN THE CASE OF A FAILURE OF THE SILT SOCK DUE TO HIGH FLOWS, A NEW SECTION OF SILT SOCK SHALL BE INSTALLED ACROSS THE FAILED PORTION OF THE SILT SOCK. AT NO POINT SHALL UN-STABILIZED AREA DRAIN OFFSITE UNCONTROLLED. THE SILT SOCK IN LOCATION 66 IS TO ENSURE SEDIMENTATION OF THE BASIN BOTTOM AREA DOES NOT OCCUR AND SHOULD BE INSTALLED ONCE THE CONVERSION TO THE PERMANENT STORMWATER BASIN IS COMPLETE.
- INSTALL ROCK FILTER #1 AT THE CULVERT BENEATH JAY STREET.
- PER NPDES REQUIREMENTS, "UPON THE INSTALLATION OR STABILIZATION OF ALL PERMITTER SEDIMENT CONTROL BMP'S AND AT LEAST 3 DAYS PRIOR TO PROCEEDING WITH THE BULK EARTH DISTURBANCE ACTIVITIES, THE PERMITTEE OR CO-PERMITTEE SHALL PROVIDE NOTIFICATION TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT."
- INSTALL SEDIMENT BASIN G WHICH WILL SERVE AS A SEDIMENT BASIN DURING CONSTRUCTION AND BE CONVERTED TO A PERMANENT STORMWATER BASIN UPON TRIBUTARY STABILIZATION. DISTURB ONLY THE MINIMUM AREA NECESSARY TO INSTALL THE SEDIMENT BASIN. THE SEDIMENT BASIN MUST BE CONSTRUCTED PRIOR TO ANY MAJOR EARTH DISTURBANCE, STRIPPING, OR CLEARING. INSTALL THE OUTLET PIPE FROM THE BASIN ALONG WITH THE ASSOCIATED OUTLET STRUCTURE. CONSTRUCT IMPERVIOUS CLAY CORE, ANTI-SEEP COLLARS, AND BACKFILL EMBANKMENT, COMPACTING TO 95% MAX DRY DENSITY. INSTALL NORTH AMERICAN GREEN C350 SLOPE PROTECTION AT EMERGENCY SPILLWAY. INSTALL ENDWALL WITH RIPRAP APRON. INSTALL SEED IN THE INTERIOR SLOPES AND BERM OF BASIN. INSTALL TYPE M OUTLET STRUCTURE, CLEAN OUT STAKE, BASIN BAFFLE(S), AND SKIMMER WITHIN THE SEDIMENT BASIN. PLEASE REFER TO THE E&S SHEETS FOR ADDITIONAL DETAIL. A LICENSED PROFESSIONAL OR DESIGNER SHALL BE PRESENT ONSITE DURING SEDIMENT BASIN EXCAVATION AND INSTALLATION OF THE OUTLET PIPE, ANTI-SEEP COLLARS, AND CLAY CORE.
- IF SOIL IS TAKEN TO OR BORROWED FROM ANOTHER CONSTRUCTION SITE, SAID SITE MUST HAVE AN APPROVED E&SPC PLAN. SEE THE "SOIL LIMITATIONS AND RESOLUTIONS" SECTION OF THIS E&S PLAN FOR FURTHER INFORMATION.
- CLEAR AND STRIP TOPSOIL ACROSS THE AREA OF THE BUILDING PADS AND STREETS WITHIN PHASE 5 AND PLACE ON THE TOPSOIL STOCKPILES AS SHOWN ON THE ATTACHED PLAN AND IN ACCORDANCE WITH PLAN DETAILS. INSTALL SILT SOCK BELOW EACH TOPSOIL STOCKPILE AS SHOWN ON THE ATTACHED PLAN.
- ROUGH GRADE THE DISTURBED AREA TO CONSTRUCT THE BUILDINGS, DRIVEWAYS, AND STREETS WITHIN PHASE 5. INSTALL SWALES 8-10 DURING ROUGH GRADING. ENSURE THE SWALE LINING IS INSTALLED IN EACH SWALE IN ACCORDANCE WITH THE PLAN DETAILS.
- INSTALL WATER, SANITARY SEWER, STORM SEWER, AND ALL OTHER UTILITIES AT THIS TIME. ENSURE INLET PROTECTION IS PROVIDED FOR ALL STORM INLETS THAT ARE NOT TRIBUTARY TO SEDIMENT BASIN G AS SHOWN ON THE E&S PLAN. INSTALL ROCK FILTER #1 ABOVE THE TRENCHES SHALL BE PLACED ON THE UP-SLOPE SIDE OF THE TRENCH. THE LENGTH OF OPEN TRENCH SHALL BE LIMITED TO THAT WHICH WILL BE BACKFILLED THE SAME DAY, AND ANY AFFECTED BMP'S SHALL BE IMMEDIATELY STABILIZED AND REPAIRED. THE TOPSOIL EXCAVATED FROM THE TRENCH SHALL BE CAREFULLY REMOVED AND STOCKPILED SEPARATELY FROM THE SUBSOIL. THE TOPSOIL SHALL BE RESTORED TO THE GRADED AREAS TO PRE-CONSTRUCTION CONDITIONS. WATER PUMPED FROM PITS AND TRENCHES SHALL BE FILTERED BY MEANS OF A FILTER BAG. IMMEDIATELY AFTER TRENCHES HAVE BEEN BACKFILLED, FINE-GRADE AREA.
- INSTALL THE STONE SUB-BASE FOR THE STREETS, DRIVEWAYS, AND CONCRETE SLABS AS PER PLAN REQUIREMENTS.

SEQUENCE OF CONSTRUCTION – PHASE 4

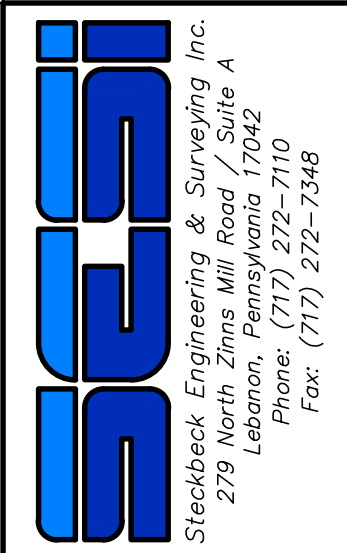
- AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE CONTRACTOR SHALL INVOKE ALL SUB-CONTRACTORS, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE CIVIL ENGINEER, AND A REPRESENTATIVE OF THE LOCAL COUNTY CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION MEETING. PERIMETER E&S CONTROLS MAY BE INSTALLED PRIOR TO THE PRE-CONSTRUCTION MEETING.
- AT LEAST 3 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY DEP PRIOR TO IMPLEMENTATION.
- INSTALL EXTENDED ROCK CONSTRUCTION ENTRANCE #4 AS SHOWN ON THE ATTACHED PLAN.
- THE LIMITS OF DISTURBANCE (LOD) SHOULD BE MARKED PRIOR TO DISTURBANCE ACTIVITIES (I.E. SURVEY STAKES, POSTS & ROPE, CONSTRUCTION FENCE, ETC.). INSTALL TEMPORARY ORANGE CONSTRUCTION FENCING AROUND WETLAND 2 AS SHOWN ON THE E&S PLANS.
- LOCATE, STAKE, AND FLAG AREAS MARKED AS PCSM BMP'S (I.E. INFILTRATION BASIN E). REFER TO PCSM PLAN FOR ADDITIONAL INFORMATION AND LOCATION OF PCSM BMP'S. THESE AREAS SHOULD NOT BE COMPACTED DURING CONSTRUCTION. NO CONSTRUCTION TRAFFIC SHALL OCCUR IN THESE AREAS EXCEPT AS NECESSARY FOR EXCAVATION/GRADING.
- INSTALL PERIMETER SILT SOCK ON THE SITE AT LOCATIONS 31-37 AND 50-56 AS INDICATED ON THE ATTACHED PLAN. SILT SOCK IS TO BE INSTALLED ALONG THE CONTOUR WHERE POSSIBLE. AT A LEVEL GRADE, THE SILT SOCK SHOULD BE POSITIONED IN SUCH A WAY AS TO PREVENT ANY SEDIMENT FROM LEAVING THE SITE. SEDIMENT ACCUMULATING TO HALF THE HEIGHT OF THE SILT SOCK SHALL BE REMOVED IN ORDER TO RESTORE THE SEDIMENT STORAGE CAPACITY OF THESE AREAS. IN THE CASE OF A FAILURE OF THE SILT SOCK DUE TO HIGH FLOWS, A NEW SECTION OF SILT SOCK SHALL BE INSTALLED ACROSS THE FAILED PORTION OF THE SILT SOCK. AT NO POINT SHALL UN-STABILIZED AREA DRAIN OFFSITE UNCONTROLLED. THE SILT SOCK IN LOCATION 64 IS TO ENSURE SEDIMENTATION OF THE BASIN BOTTOM AREA DOES NOT OCCUR AND SHOULD BE INSTALLED ONCE THE CONVERSION TO THE PERMANENT STORMWATER BASIN IS COMPLETE.
- PER NPDES REQUIREMENTS, "UPON THE INSTALLATION OR STABILIZATION OF ALL PERMITTER SEDIMENT CONTROL BMP'S AND AT LEAST 3 DAYS PRIOR TO PROCEEDING WITH THE BULK EARTH DISTURBANCE ACTIVITIES, THE PERMITTEE OR CO-PERMITTEE SHALL PROVIDE NOTIFICATION TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT."
- INSTALL SEDIMENT BASIN E WHICH WILL SERVE AS A SEDIMENT BASIN DURING CONSTRUCTION AND BE CONVERTED TO A PERMANENT STORMWATER BASIN UPON TRIBUTARY STABILIZATION. DISTURB ONLY THE MINIMUM AREA NECESSARY TO INSTALL THE SEDIMENT BASIN. THE SEDIMENT BASIN MUST BE CONSTRUCTED PRIOR TO ANY MAJOR EARTH DISTURBANCE, STRIPPING, OR CLEARING. INSTALL THE OUTLET PIPE FROM THE BASIN ALONG WITH THE ASSOCIATED OUTLET STRUCTURE. CONSTRUCT IMPERVIOUS CLAY CORE, ANTI-SEEP COLLARS, AND BACKFILL EMBANKMENT, COMPACTING TO 95% MAX DRY DENSITY. INSTALL NORTH AMERICAN GREEN C350 SLOPE PROTECTION AT EMERGENCY SPILLWAY. INSTALL ENDWALL WITH RIPRAP APRON. INSTALL SEED IN THE INTERIOR SLOPES AND BERM OF BASIN. INSTALL TYPE M OUTLET STRUCTURE, CLEAN OUT STAKE, BASIN BAFFLE(S), AND SKIMMER WITHIN THE SEDIMENT BASIN. PLEASE REFER TO THE E&S SHEETS FOR ADDITIONAL DETAIL. A LICENSED PROFESSIONAL OR DESIGNER SHALL BE PRESENT ONSITE DURING SEDIMENT BASIN EXCAVATION AND INSTALLATION OF THE OUTLET PIPE, ANTI-SEEP COLLARS, AND CLAY CORE.
- IF SOIL IS TAKEN TO OR BORROWED FROM ANOTHER CONSTRUCTION SITE, SAID SITE MUST HAVE AN APPROVED E&SPC PLAN. SEE THE "SOIL LIMITATIONS AND RESOLUTIONS" SECTION OF THIS E&S PLAN FOR FURTHER INFORMATION.
- CLEAR AND STRIP TOPSOIL ACROSS THE AREA OF THE BUILDING PADS AND STREETS WITHIN PHASE 4 AND PLACE ON THE TOPSOIL STOCKPILES AS SHOWN ON THE ATTACHED PLAN AND IN ACCORDANCE WITH PLAN DETAILS. INSTALL SILT SOCK BELOW EACH TOPSOIL STOCKPILE AS SHOWN ON THE ATTACHED PLAN.
- ROUGH GRADE THE DISTURBED AREA TO CONSTRUCT THE BUILDINGS, DRIVEWAYS, AND STREETS WITHIN PHASE 4. INSTALL SWALE 12 DURING ROUGH GRADING. ENSURE THE SWALE LINING IS INSTALLED IN EACH SWALE IN ACCORDANCE WITH THE PLAN DETAILS.
- INSTALL WATER, SANITARY SEWER, STORM SEWER, AND ALL OTHER UTILITIES AT THIS TIME. ENSURE INLET PROTECTION IS PROVIDED FOR ALL STORM INLETS NOT DISCHARGING TO SEDIMENT BASIN E AS SHOWN ON THE E&S PLAN. DURING AND FOLLOWING STORM EVENTS PROVIDE A MEANS TO DEWATER PITS AND UTILITY TRENCHES. SPILL MATERIAL FROM EXCAVATION OF THE TRENCHES SHALL BE PLACED ON THE UP-SLOPE SIDE OF THE TRENCH. THE LENGTH OF OPEN TRENCH SHALL BE LIMITED TO THAT WHICH WILL BE BACKFILLED THE SAME DAY, AND ANY AFFECTED BMP'S SHALL BE IMMEDIATELY STABILIZED AND REPAIRED. THE TOPSOIL EXCAVATED FROM THE TRENCH SHALL BE CAREFULLY REMOVED AND STOCKPILED SEPARATELY FROM THE SUBSOIL. THE TOPSOIL SHALL BE RESTORED TO THE GRADED AREAS TO PRE-CONSTRUCTION CONDITIONS. WATER PUMPED FROM PITS AND TRENCHES SHALL BE FILTERED BY MEANS OF A FILTER BAG. IMMEDIATELY AFTER TRENCHES HAVE BEEN BACKFILLED, FINE-GRADE AREA.
- INSTALL THE STONE SUB-BASE FOR THE STREETS, DRIVEWAYS, AND CONCRETE SLABS AS PER PLAN REQUIREMENTS.
- CONSTRUCT THE PROPOSED BUILDINGS AND ATTACHED UTILITIES (ROOF DRAINS, SANITARY CONNECTIONS, WATER CONNECTIONS, ETC.) IMMEDIATELY UPON COMPLETION OF EARTH DISTURBANCE ACTIVITIES FINAL GRADE AND STABILIZE THE LOT.
- FINE GRADE ANY REMAINING AREAS AS SHOWN ON THE GRADING PLAN. DURING THIS TIME, FRAME EARTH MOVING EQUIPMENT WILL BE EMPLOYED TO REMOVE TOPSOIL AND EXCESS "FILL" MATERIAL. IF ANY EXISTS, SPREAD A MINIMUM OF 4-8 INCHES OF TOPSOIL ON FRESHLY GRADED AREAS. REFER TO THE TOPSOIL APPLICATION NOTES ON THE PLAN. FINAL PASSES DURING FINE GRADING SHALL BE MADE AT RIGHT ANGLES TO THE SLOPES. PREPARE THE REMAINDER OF THE DISTURBED AREA FOR PERMANENT STABILIZATION. SEEDBED SHALL BE PREPARED IN ACCORDANCE WITH ACCEPTED PRACTICES. EACH SEED MIXTURE SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RATES AND INSTRUCTIONS.
- DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINAL GRADE OR WHICH WILL NOT BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
- PAVE THE STREETS. DO NOT INSTALL SURFACE (WEARING) COURSE UNTIL THE AREA IS STABILIZED (DEFINED AS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER, WITH A DENSITY CAPABLE OF RESISTING ACCELERATED EROSION AND SEDIMENTATION IN ALL AREAS TRIBUTARY TO THE CONTROLS). IF EARTHMOVING ACTIVITIES CEASE FOR FOUR (4) DAYS OR MORE TEMPORARY STABILIZATION SHALL BE APPLIED. SEE "STABILIZATION SPECIFICATIONS" IN THE E&S PLAN FOR FURTHER DETAILS.
- ALL SEDIMENT DEPOSITED WITHIN STORM SEWER CONVEYANCE PIPES SHALL BE REMOVED PRIOR TO COMPLETION OF THE PROJECT AND PRIOR TO CONVERSION OF THE SEDIMENT BASINS TO PERMANENT STORMWATER BASINS. ANY WATER PUMPED FROM THE SEDIMENT BASIN OR OTHER AREA OF THE SITE SHALL BE PUMPED THROUGH A FILTER BAG AND THE COLLECTED SEDIMENT SHALL BE DISPOSED OF PROPERLY. ALL AREAS DISTURBED DURING THIS PROCESS SHALL BE STABILIZED IMMEDIATELY THROUGH SEEDING AND MULCHING. THE COUNTY CONSERVATION DISTRICT SHOULD BE CONTACTED PRIOR TO CONVERSION OR REMOVAL OF ANY E&S BMP'S AND MAY REQUIRE A SITE INSPECTION. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROLS ONCE THE SITE IS COMPLETELY STABILIZED (DEFINED AS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER, WITH A DENSITY CAPABLE OF RESISTING ACCELERATED EROSION AND SEDIMENTATION IN ALL AREAS TRIBUTARY TO THE CONTROLS) WITH APPROVAL OF THE COUNTY CONSERVATION DISTRICT.

- CONSTRUCT THE PROPOSED BUILDINGS AND ATTACHED UTILITIES (ROOF DRAINS, SANITARY CONNECTIONS, WATER CONNECTIONS, ETC.) IMMEDIATELY UPON COMPLETION OF EARTH DISTURBANCE ACTIVITIES FINAL GRADE AND STABILIZE THE LOT.
- FINE GRADE ANY REMAINING AREAS AS SHOWN ON THE GRADING PLAN. DURING THIS TIME, FRAME EARTH MOVING EQUIPMENT WILL BE EMPLOYED TO REMOVE TOPSOIL AND EXCESS "FILL" MATERIAL. IF ANY EXISTS, SPREAD A MINIMUM OF 4-8 INCHES OF TOPSOIL ON FRESHLY GRADED AREAS. REFER TO THE TOPSOIL APPLICATION NOTES ON THE PLAN. FINAL PASSES DURING FINE GRADING SHALL BE MADE AT RIGHT ANGLES TO THE SLOPES. PREPARE THE REMAINDER OF THE DISTURBED AREA FOR PERMANENT STABILIZATION. SEEDBED SHALL BE PREPARED IN ACCORDANCE WITH ACCEPTED PRACTICES. EACH SEED MIXTURE SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RATES AND INSTRUCTIONS.
- DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINAL GRADE OR WHICH WILL NOT BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
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- UPON STABILIZATION OF ALL DISTURBED AREAS MODIFY SEDIMENT BASIN G AS REQUIRED TO INSTALL INFILTRATION BASIN G AS SHOWN ON THE PCSM PLAN. REMOVE ALL SEDIMENT BASIN BAFFLES, CLEANOUT STAKE, AND SKIMMER. THE INFILTRATION BASIN SHALL BE OVER-EXCAVATED AND SCARIFIED IN ACCORDANCE WITH THE PLAN DETAIL. THE EXCAVATOR SHOULD AVOID EXCAVATING TO THE FINAL DESIGN INVERT UNTIL THE ENGINEERED SOIL MIX IS READY TO BE PLACED. THIS WILL MINIMIZE THE EXPOSURE OF SUBGRADE SOIL AND AID IN REDUCING COMPACTION. WHEN EXCAVATING TO FINAL INVERT SUBGRADES UTILIZE A SMOOTH (TOOTHLESS) BLADE BUCKET TO AVOID LOCALIZED COMPACTION. DURING THE EXCAVATION OF THE BASIN BOTTOM, INSTALL THE UNDERDRAIN SYSTEM IN ACCORDANCE WITH THE PLAN DETAILS. PLACE THE ENGINEERED SOIL MIX TO THE SPECIFIED ELEVATION WITHIN THE BASIN BOTTOM. ANY SOIL COMPACTION SHOULD BE AVOIDED IN THE BASIN BOTTOM. IMMEDIATELY AFTER PLACING THE ENGINEERED SOIL MIX, INSTALL THE SILT SOCK AT LOCATION 66 TO PREVENT SEDIMENTATION OF THE ENGINEERED SOILS. WHEN SEEDING THE BASIN MIXES BE SURE TO HAND RAKE THE SEED INTO THE SOIL. A LICENSED PROFESSIONAL OR DESIGNER SHALL BE PRESENT ONSITE DURING INSTALLATION OF THE UNDERDRAIN SYSTEM, ENGINEERED SOILS, AND FINAL GRADING/SEEDING OF INFILTRATION BASIN G.
- THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES ON OR OFF THE SITE. THESE BUILDING WASTES INCLUDE, BUT ARE NOT LIMITED TO, EXCESS SOIL MATERIALS, BUILDING MATERIALS, CONCRETE WASH WATER, SANITARY WASTES, ETC. THAT COULD ADVERSELY IMPACT WATER QUALITY.
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- PER NPDES REQUIREMENTS, "WITHIN 30 DAYS AFTER THE COMPLETION OF EARTH DISTURBANCE ACTIVITIES AUTHORIZED BY THIS PERMIT, INCLUDING THE PERMANENT STABILIZATION OF THE SITE AND PROPER INSTALLATION OF PCSM BMP'S IN ACCORDANCE WITH THE APPROVED PCSM PLAN, OR UPON SUBMISSION OF THE NOT IF SOONER, THE PERMITTEE SHALL FILE WITH THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT A STATEMENT SIGNED BY A LICENSED PROFESSIONAL AND BY THE PERMITTEE CERTIFYING THAT WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THIS PERMIT AND THE APPROVED E&S AND PCSM PLANS. COMPLETION CERTIFICATES ARE NEEDED TO ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE PERMIT AND THE APPROVED E&S AND PCSM PLANS."
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- ALL SEDIMENT DEPOSITED WITHIN STORM SEWER CONVEYANCE PIPES SHALL BE REMOVED PRIOR TO COMPLETION OF THE PROJECT. ANY WATER PUMPED FROM THE STORMWATER BASIN OR OTHER AREA OF THE SITE SHALL BE PUMPED THROUGH A FILTER BAG AND THE COLLECTED SEDIMENT SHALL BE DISPOSED OF PROPERLY. ALL AREAS DISTURBED DURING THIS PROCESS SHALL BE STABILIZED IMMEDIATELY THROUGH SEEDING AND MULCHING. THE COUNTY CONSERVATION DISTRICT SHOULD BE CONTACTED PRIOR TO CONVERSION OR REMOVAL OF PRIMARY E&S BMP'S AND MAY REQUIRE A SITE INSPECTION. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROLS ONCE THE SITE IS COMPLETELY STABILIZED (DEFINED AS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER, WITH A DENSITY CAPABLE OF RESISTING ACCELERATED EROSION AND SEDIMENTATION IN ALL AREAS TRIBUTARY TO THE CONTROLS).
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CONTRACTOR NOTES

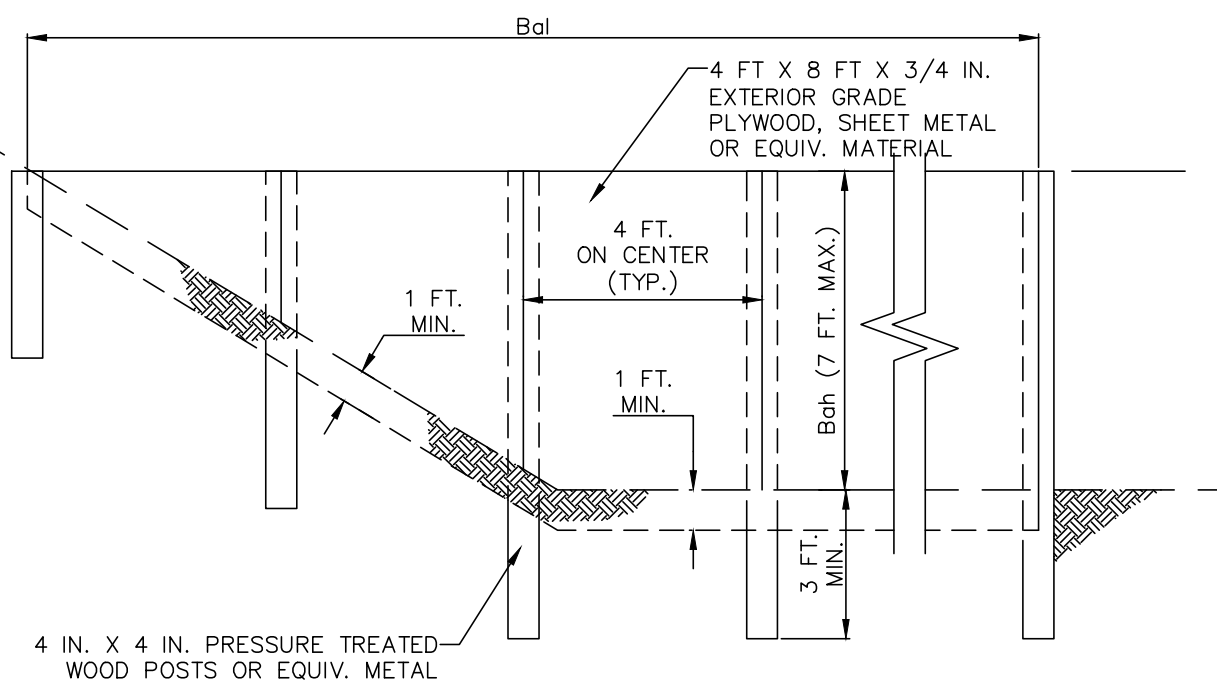
- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY DEP PRIOR TO IMPLEMENTATION.
- PER NPDES REQUIREMENTS, "UPON THE INSTALLATION OR STABILIZATION OF ALL PERMITTER SEDIMENT CONTROL BMP'S AND AT LEAST 3 DAYS PRIOR TO PROCEEDING WITH THE BULK EARTH DISTURBANCE ACTIVITIES, THE PERMITTEE OR CO-PERMITTEE SHALL PROVIDE NOTIFICATION TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT."
- IF SOIL IS TAKEN TO OR BORROWED FROM ANOTHER CONSTRUCTION SITE, SAID SITE MUST HAVE AN APPROVED E&SPC PLAN. SEE THE "SOIL LIMITATIONS AND RESOLUTIONS" SECTION OF THIS E&S PLAN FOR FURTHER INFORMATION.
- DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINAL GRADE OR WHICH WILL NOT BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
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EROSION & SEDIMENTATION POLLUTION CONTROL NOTES  
 PRELIMINARY SUBDIVISION  
 For  
 THE ESTATES AT HEARTSIDE  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania



FIELD CREW:	MOJ,JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	11/4/22
SCALE:	AS NOTED
PROJECT #	#784-22-001





BASIN OR TRAP NO.	BAFFLE LENGTH (FT)	BAFFLE HEIGHT (FT)	CRIST. ELEV. RCE (FT)	BOTTOM ELEV. BE (FT)
SEDIMENT BASIN A	125	3.50	566.50	563.00
SEDIMENT BASIN B	*	3.50	589.50	586.00
SEDIMENT BASIN C	*	3.50	596.50	593.00
SEDIMENT BASIN D	150	3.50	616.50	613.00
SEDIMENT BASIN E	100	3.50	616.50	613.00
SEDIMENT BASIN F	75(X2)	2.50	614.50	612.00
SEDIMENT BASIN G	*	4.50	616.50	612.00

NOTES:  
\*VARIES (SEE PLAN VIEW FOR LAYOUT OF BAFFLES)  
SEE APPROPRIATE BASIN DETAIL FOR PROPER LOCATION AND ORIENTATION.

AN ACCEPTABLE ALTERNATIVE IS TO INSTALL THE SAME HEIGHT WITH SUPER SILT FENCE OR COMPOST FILTER SOCK AT THE BAFFLE LOCATION

IN POOLS WITH DEPTHS EXCEEDING 7', THE TOP OF THE PLYWOOD BAFFLE DOES NOT NEED TO EXTEND TO THE TEMPORARY RISER CREST. SUPER SILT FENCE BAFFLES NEED NOT EXTEND TO TRCE ELEVATION.

BAFFLES SHALL BE TIED INTO ONE SIDE OF THE BASIN UNLESS OTHERWISE SHOWN ON THE PLAN DRAWINGS.

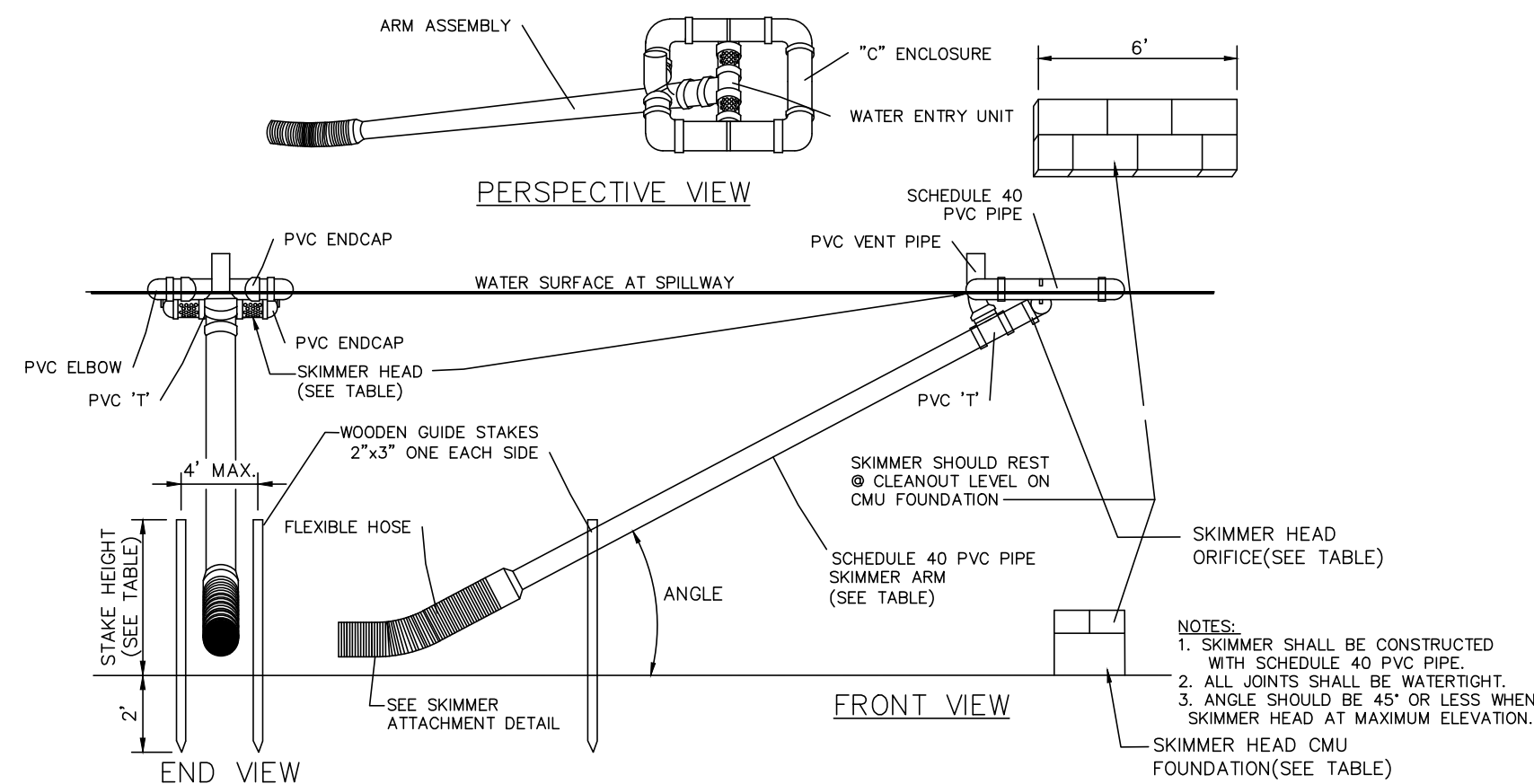
SUBSTITUTION OF MATERIALS NOT SPECIFIED IN THIS DETAIL SHALL BE APPROVED BY THE DEPARTMENT OR THE LOCAL CONSERVATION DISTRICT BEFORE INSTALLATION.

DAMAGED OR WARPED BAFFLES SHALL BE REPLACED WITHIN 7 DAYS OF INSPECTION.

BAFFLES REQUIRING SUPPORT POSTS SHALL NOT BE INSTALLED IN BASINS REQUIRING IMPERVIOUS LINERS.

### SEDIMENT BASIN BAFFLE DETAIL

NO SCALE



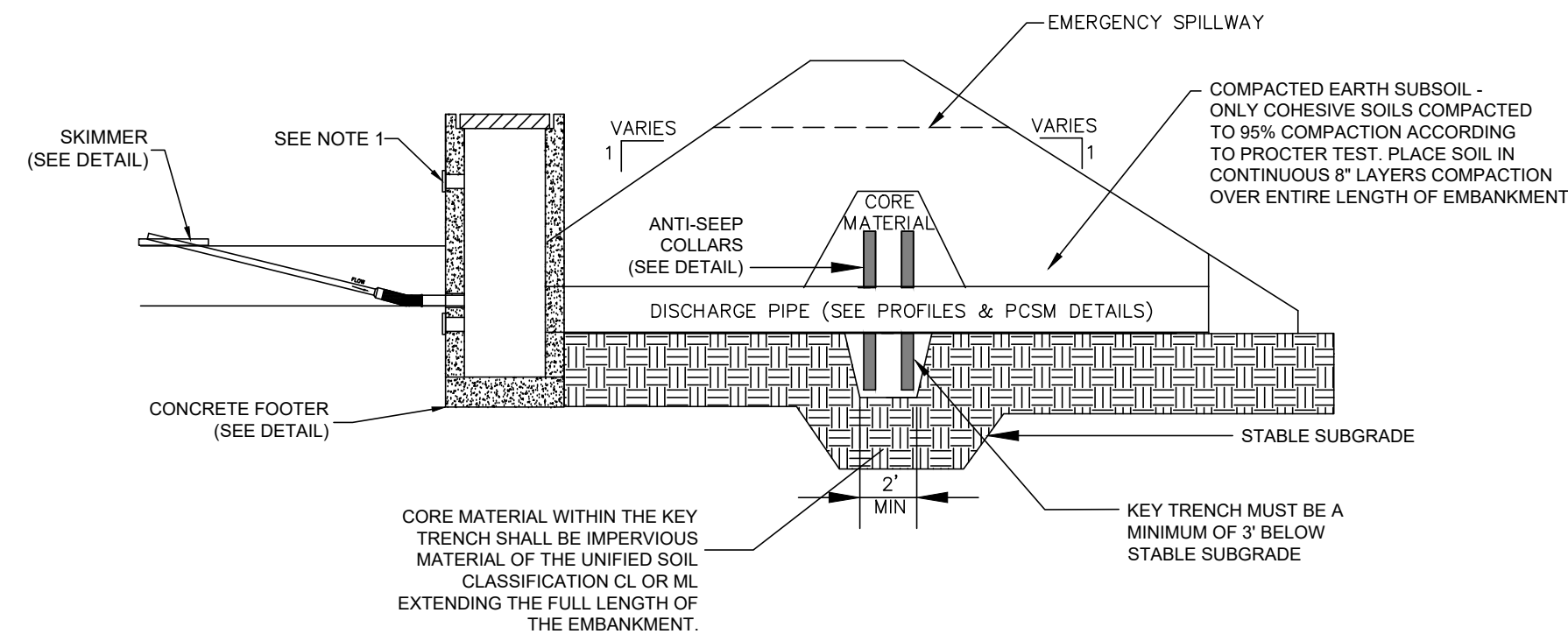
BASIN	SKIMMER ARM				SKIMMER HEAD CMU		HEIGHT (FT)	WOODEN STAKES HEIGHT
	LENGTH (FT)	DIA. (IN)	PIPE DIA. (IN)	ORIFICE DIA.	BOTTOM	TOP ELEV		
A	7	4	4	3.6	563.00	564.00	1	4
B	7	4	4	3.6	586.00	587.00	1	4
C	7	4	4	2.9	593.00	594.00	1	4
D	7	2	2	1.7	613.00	614.50	1.5	4
E	7	2.5	2.5	2.2	613.00	614.00	1	4
F	7	5	5	4.6	612.00	613.00	1	4
G	7	5	5	4.0	612.00	613.00	1	5

SKIMMER SHALL BE MANUFACTURED BY THE FOLLOWING:  
1. J.W. FAIRCLOTH & SON, INC.  
PO BOX 789  
HILLSBOROUGH, NORTH CAROLINA  
PHONE: 919-732-1244  
FAX: 919-732-1266

2. OR APPROVED EQUAL

### E&S SKIMMER OUTLET DETAIL

NO SCALE

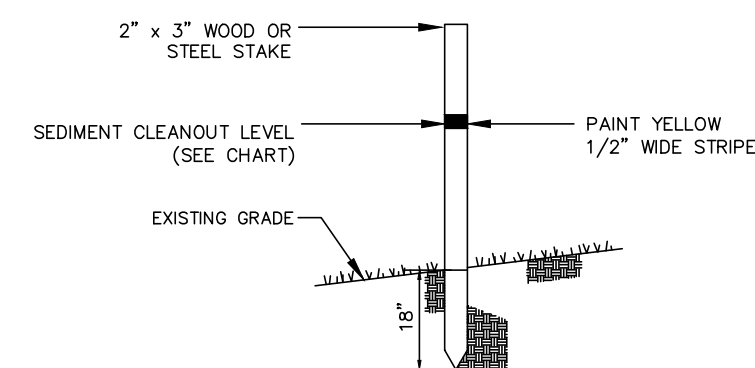


SEDIMENT BASIN DESIGN CHART											
BASIN	BASIN BOTTOM (FT)	INVERT OF SKIMMER ARM (FT)	TOP OF GRATE (FT)	SPILLWAY ELEVATION (FT)	SIZE OF DISCHARGE PIPE (IN)	(UPSTREAM) INV OF DISCHARGE PIPE (FT)	(DOWNSTREAM) INV OF DISCHARGE PIPE (FT)	PIPE LENGTH (FT)	HEIGHT OF RISER EXT.(FT)	SKIMMER	SILT SOCK BARRIER
A	563.00	563.00	566.50	567.00	18	561.50	559.00	50	---	YES	NO
B	586.00	586.00	589.50	590.00	18	584.50	580.00	54	---	YES	NO
C	593.00	593.00	596.50	597.00	18	591.50	588.00	52	---	YES	NO
D	613.00	613.00	616.50	617.00	18	612.75	612.50	36	---	YES	NO
E	613.00	613.00	616.50	617.00	18	613.00	612.75	34	---	YES	NO
F	612.00	612.00	614.50	615.00	18	611.50	611.25	37	---	YES	NO
G	612.00	612.00	616.50	617.00	18	610.75	610.25	36	---	YES	NO

NOTES:  
1. ALL ORIFICES IN THE OUTLET STRUCTURE (WITH THE EXCEPTION OF THE SKIMMER PENETRATION) SHALL BE TEMPORARILY SEALED WITH A SOLID STAINLESS STEEL PLATE DURING THE E&S PHASE.

### SEDIMENT BASIN W/ SKIMMER DETAIL

NO SCALE

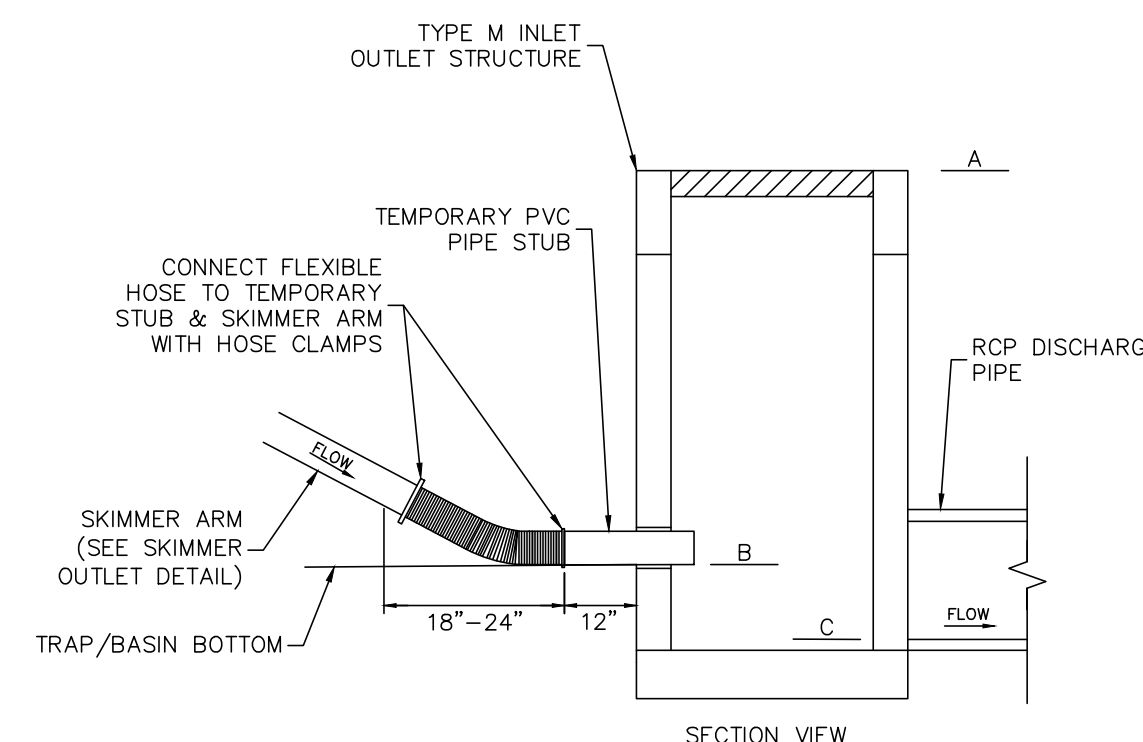


BASIN	ELEVATION
A	564.00
B	587.00
C	594.00
D	614.50
E	614.00
F	613.00
G	613.00

### CLEANOUT STAKE DETAIL

NO SCALE

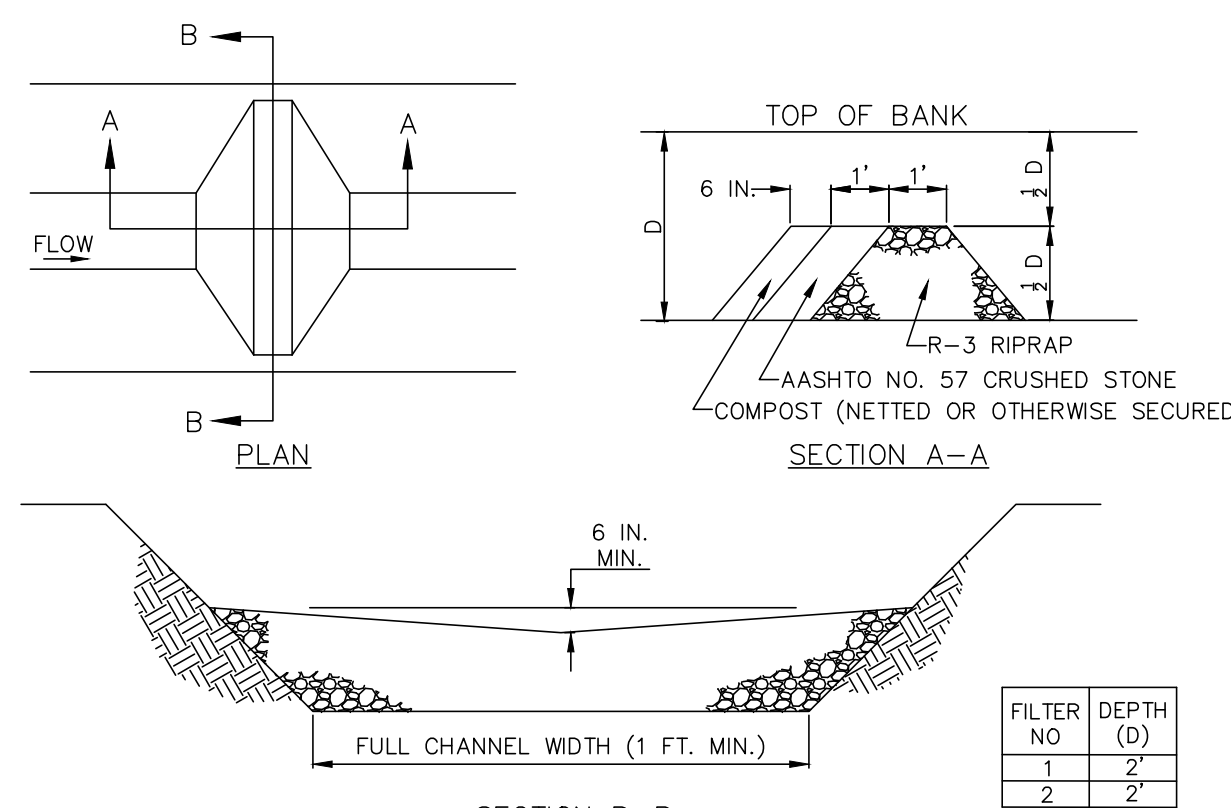
SEDIMENT BASIN/TRAP OUTLET STRUCTURE						
BASIN /TRAP	BASIN /TRAP BOTTOM ELEV	ELEV A	ELEV B	TEMPORARY STUB PIPE DIA. (IN)	ELEV C	DISCHARGE PIPE DIA. (IN)
A	563.00	566.50	563.00	4.0	561.50	18
B	586.00	589.50	586.00	4.0	584.50	18
C	593.00	596.50	593.00	4.0	591.50	18
D	613.00	616.50	613.00	2.0	612.75	18
E	613.00	616.50	613.00	2.5	613.00	18
F	612.00	614.50	612.00	5.0	611.50	18
G	612.00	616.50	612.00	5.0	610.75	18



NOTES:  
1. ALL JOINTS SHALL BE WATERTIGHT.  
2. TEMPORARY STUB PIPE PENETRATION TO BE FULLY GROUTED OR SEALED WITH A STAINLESS STEEL PLATE DURING CONVERSION TO PERMANENT STORMWATER BASIN.

### SKIMMER ATTACHMENT - SEDIMENT BASIN/TRAP OUTLET STRUCTURE DETAIL

NO SCALE



NOTES:  
SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE HEIGHT OF THE FILTERS. IMMEDIATELY UPON STABILIZATION OF EACH CHANNEL, REMOVE ACCUMULATED SEDIMENT, REMOVE ROCK FILTER, AND STABILIZE DISTURBED AREAS.

### ROCK FILTER

NO SCALE

OPEN, SUNNY LOCATIONS AND WELL-DRAINED SOILS					
SPECIES	PERCENTAGE	APP. RATE*	FERTILIZER	SEED DATES	
KENTUCKY BLUEGRASS	100%	2-3		MARCH 15-JUNE 15 & AUGUST 30-OCTOBER 15	
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	80-90%	3-4			
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	40-60%	3-4	N-P <sub>2</sub> O <sub>5</sub> -K <sub>2</sub> O	MARCH 15-JUNE 15 & AUGUST 30-OCTOBER 15	
FINE FESCUES	10-20%	4-5			
TURF-TYPE TALL FESCUE	100%	6-8		MARCH 15-JUNE 15 & AUGUST 30-OCTOBER 15	
TURF-TYPE PERENN. RYEGRASS	100%	4-5			

1. APPLY LIME IN ACCORDANCE WITH SOIL TEST RESULTS. APPLY 6 TONS OF AGRICULTURAL GRADE LIMESTONE/ACRE.  
2. APPLY FERTILIZER AT A RATE OF 600 LB./ACRE.  
3. ALL SEEDING AREAS SHALL BE MULCHED WITH HAY OR STRAW APPLIED AT A RATE OF 3 TONS/ACRE. MULCH TO BE ANCHORED WITH WOOD CELLULOSE FIBER @ 750 LBS./AC.  
4. ALL DIVERSIONS, CHANNELS, SED TRAPS AND STOODIPLES MUST BE STABILIZED IMMEDIATELY.

### SEEDING SPECIFICATIONS

NOT TO SCALE

STEEP SLOPES					
SPECIES	PERCENTAGE	APP. RATE*	FERTILIZER	SEED DATES	
BROODSOT TREFLO	98%	10		MARCH 15-JUNE 15 & AUGUST 30-OCTOBER 15	
TALL FESCUE	1-2%	30			

1. APPLY LIME IN ACCORDANCE WITH SOIL TEST RESULTS. APPLY 6 TONS OF AGRICULTURAL GRADE LIMESTONE/ACRE.  
2. APPLY FERTILIZER AT A RATE OF 1,000 LB./ACRE.  
3. ALL SEEDING AREAS SHALL BE MULCHED WITH HAY OR STRAW APPLIED AT A RATE OF 3 TONS/ACRE. MULCH TO BE ANCHORED WITH WOOD CELLULOSE FIBER @ 750 LBS./AC.  
4. ALL DIVERSIONS, CHANNELS, SED TRAPS AND STOODIPLES MUST BE STABILIZED IMMEDIATELY.

### STEEP SLOPE SEEDING SPECIFICATIONS

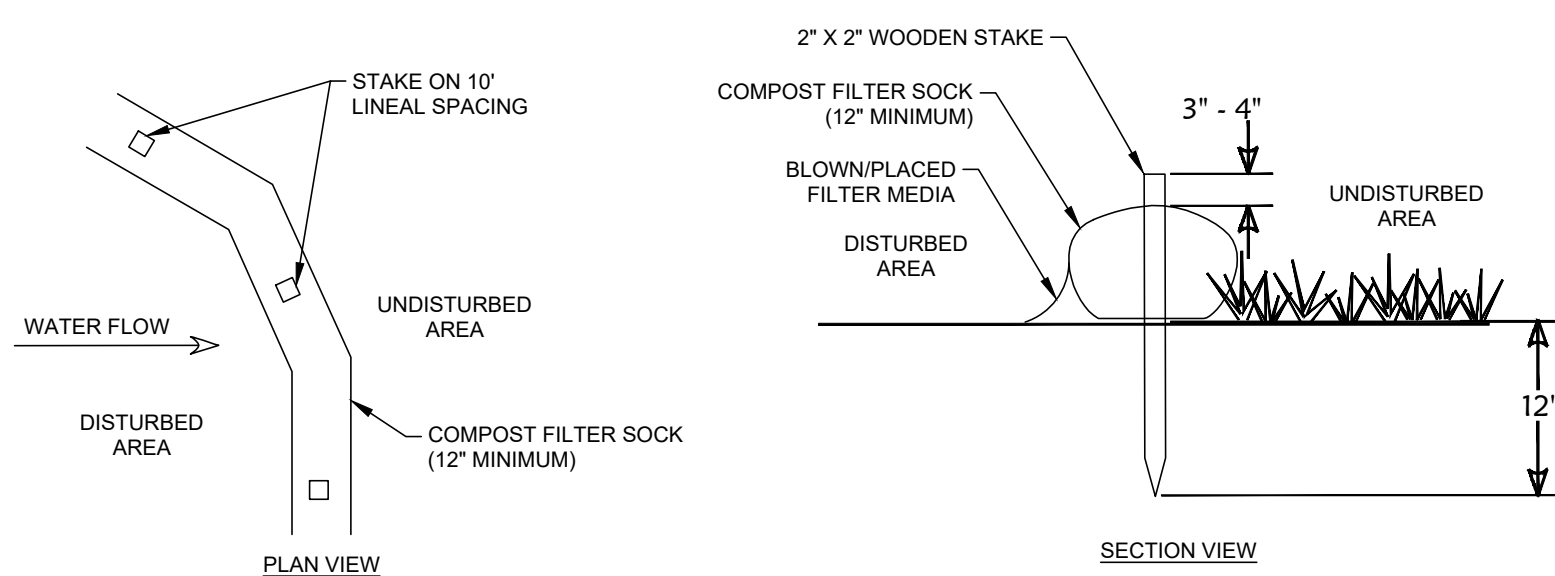
NOT TO SCALE

TEMPORARY					
SPECIES	PERCENTAGE	APP. RATE*	FERTILIZER	SEED DATES	
ANNUAL RYEGRASS	98%	40		MARCH 15-JUNE 15 & AUGUST 30-OCTOBER 15	

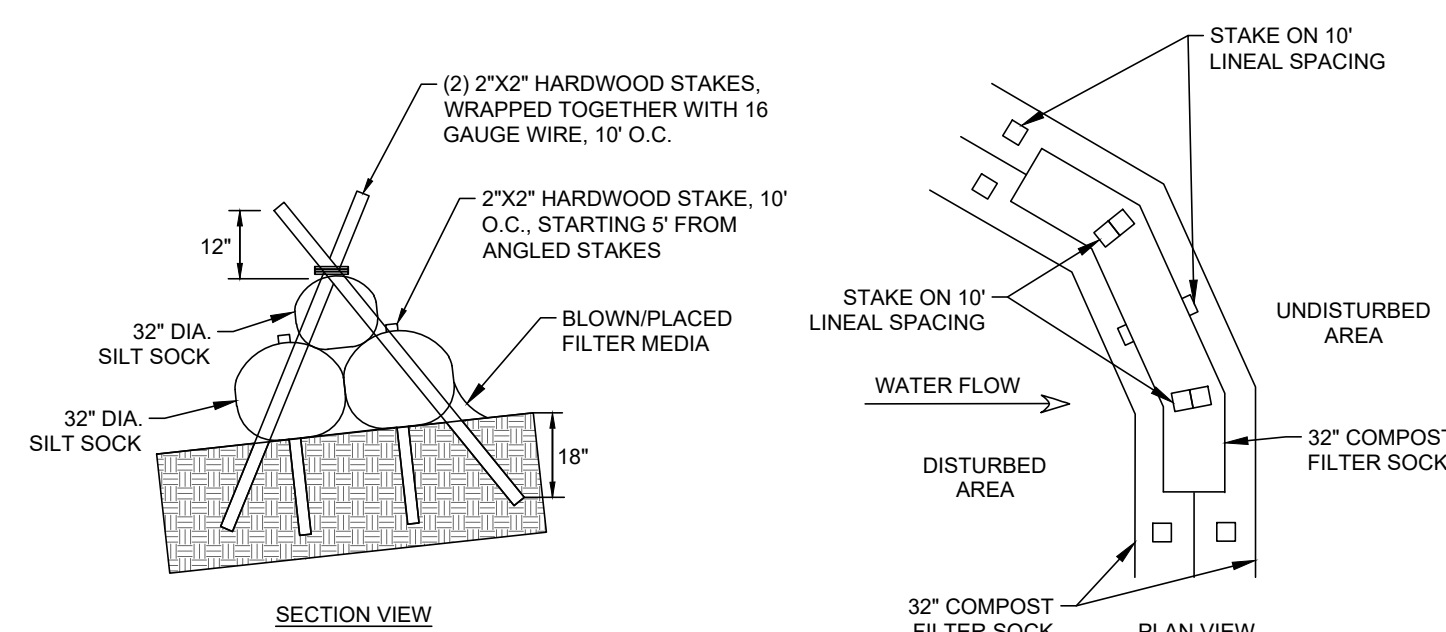
1. APPLY LIME IN ACCORDANCE WITH SOIL TEST RESULTS. APPLY 1 TON OF AGRICULTURAL GRADE LIMESTONE/ACRE.  
2. APPLY FERTILIZER AT A RATE OF 400 LB./ACRE.  
3. ALL SEEDING AREAS SHALL BE MULCHED WITH HAY OR STRAW APPLIED AT A RATE OF 3 TONS/ACRE. MULCH TO BE ANCHORED WITH WOOD CELLULOSE FIBER @ 750 LBS./AC.  
4. ALL DIVERSIONS, CHANNELS, SED TRAPS AND STOODIPLES MUST BE STABILIZED IMMEDIATELY.

### TEMPORARY SEEDING SPECIFICATIONS

NOT TO SCALE



### STANDARD INSTALLATION



### STACKED INSTALLATION

### COMPOST FILTER SOCK DETAIL

NO SCALE

GENERAL NOTES:  
1. ALL MATERIAL TO MEET FILTERXX SPECIFICATIONS.  
2. FILTER SOCK COMPOST/SOIL/ROCK/SEED FIL TO MEET APPLICATION REQUIREMENTS.  
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY THE ENGINEER.

#### OPERATION AND MAINTENANCE NOTES:

- THE CONTRACTOR SHALL MAINTAIN THE FILTER SOCK IN A FUNCTIONAL CONDITION AT ALL TIMES AND IT SHALL BE ROUTINELY INSPECTED.
- IF THE FILTER SOCK HAS BEEN DAMAGED, IT SHALL BE REPAIRED. IF BEYOND REPAIR, A NEW SECTION OF FILTER SOCK SHALL BE INSTALLED IMMEDIATELY ON THE UPSLOPE SIDE OF THE DAMAGED SOCK.
- THE CONTRACTOR SHALL REMOVE SEDIMENT AT THE BASE OF THE UPSLOPE SIDE OF THE FILTER SOCK WHEN ACCUMULATION HAS REACHED 1/2 OF THE EFFECTIVE HEIGHT OF THE FILTER SOCK, OR AS DIRECTED BY THE LEBANON COUNTY CONSERVATION DISTRICT. ALTERNATIVELY, A NEW FILTER SOCK CAN BE PLACED ON TOP OF AND SLIGHTLY BEHIND THE ORIGINAL ONE CREATING MORE SEDIMENT STORAGE CAPACITY WITHOUT SOIL DISTURBANCE.
- FILTER SOCK SHALL BE MAINTAINED UNTIL DISTURBED AREA ABOVE THE DEVICE HAS BEEN PERMANENTLY STABILIZED AND CONSTRUCTION ACTIVITY HAS CEASED.
- THE FILTER MEDIA WILL BE DISPERSED ON SITE ONCE DISTURBED AREA HAS BEEN PERMANENTLY STABILIZED, CONSTRUCTION ACTIVITY HAS CEASED, OR AS DETERMINED BY THE LEBANON COUNTY CONSERVATION DISTRICT.
- FOR LONG-TERM SEDIMENT AND POLLUTION CONTROL APPLICATION, FILTER SOCK CAN BE SEED AT THE TIME OF INSTALLATION TO CREATE A VEGETATIVE FILTERING SYSTEM FOR PROLONGED AND INCREASED FILTRATION OF SEDIMENT AND SOLUBLE POLLUTANTS (CONTAINED VEGETATIVE FILTER STRIP). THE APPROPRIATE SEED MIX SHALL BE DETERMINED BY THE DESIGN PROFESSIONAL.

EROSION & SEDIMENTATION CONTROL DETAILS  
 PRELIMINARY SUBDIVISION  
 For  
 THE ESTATES AT HEARTSIDE  
 located in  
 NORTH LEBANON TOWNSHIP  
 LEBANON County, Pennsylvania

Steadbeck Engineering & Surveying, Inc.  
 279 Lebanon, Pennsylvania 17042  
 Phone: (717) 272-7110  
 Fax: (717) 272-7348

FIELD CREW: MOO,JEC  
 BASE MAP: JEC  
 DRAWN: CDS  
 DESIGN: CDS  
 CHECKED: SAS  
 DATE: 11/4/22  
 SCALE: AS NOTED  
 PROJECT #784-22-001