

STORM WATER NOTES

- 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 IDENTIFIED OTHERWISE HEREIN.
- 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 AS SHOWN ON THE APPROVED PLAN AND IN ACCORDANCE WITH NORTH LEBANON TOWNSHIP STORM WATER MANAGEMENT ORDINANCE.
- 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.
- 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.
- 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, 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 5 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.
- 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.
- STORMWATER INLETS, PIPES, CULVERTS AND SWALES (COLLECTIVELY 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 STIPULATE 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.
- 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.
- EXISTING AND PROPOSED ROADSIDE GUTTERS OR SWALES SHALL NOT BE OBSTRUCTED BY DRIVEWAYS, FILL, OR STRUCTURES.
- 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.
- 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.
- SEWER MAINS SHALL BE SMOOTH LINED CORRUGATED POLYETHYLENE PIPE (SLOPP) AND SHALL BE CONCRETE ENCASED WHEN COVER IS LESS THAN 12" TO SUBGRADE.
- ALL INLETS SHALL BE SUPPLIED WITH BICYCLE SAFE GRATES.
- 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.
- 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 THE TOP OF A TYPE "M" INLET.
- 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.
- 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.
- CONTRACTORS AND PROPERTY OWNERS SHALL NOT STORE CONSTRUCTION MATERIALS OR LOCATE TRASH RECEPTACLES (I.E. DUMPSTERS) ON THE PAVED CARTWAY OF STREETS.
- ALL MUD FROM CONSTRUCTION ACTIVITIES SHALL BE CLEANED BY THE RESPONSIBLE CONTRACTOR OR PROPERTY OWNER AT THE END OF EACH WORKDAY.
- 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 DEWATER 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. IF 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 INCLUDED IN THE APPROVED SUBDIVISION, LAND DEVELOPMENT OR SWM SITE PLAN AS SPECIFIED IN SECTION 406 OF THE NORTH LEBANON TOWNSHIP STORMWATER MANAGEMENT ORDINANCE.

PURPOSE OF PLAN NOTE

THE PURPOSE OF THIS PLAN IS TO PROPOSE 29 LOTS (PHASE 1) OF THE ESTATES AT HEARTHSIDE DEVELOPMENT. THE OVERALL PLAN PROPOSES 120 LOTS. THIS PLAN ALSO PROPOSES ROAD INFRASTRUCTURE, STORMWATER MANAGEMENT FACILITIES AND PUBLIC SEWER AND WATER MAINS.

PRELIMINARY PLAN APPROVAL NOTE

THE PRELIMINARY PLANS WERE APPROVED BY THE NORTH LEBANON TOWNSHIP BOARD OF SUPERVISORS AT THEIR REGULARLY SCHEDULED MEETING ON APRIL 22, 2024.

OWNERS CERTIFICATION AND ACKNOWLEDGMENT

COMMONWEALTH OF PENNSYLVANIA)
COUNTY OF _____)

ON THIS, _____ DAY OF _____, 2024, BEFORE ME, THE UNDERSIGNED OFFICER, PERSONALLY APPEARED _____ OF _____, BEING _____ WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT THE CORPORATION IS THE _____ OF THE PROPERTY SHOWN ON THIS PLAN, THAT HE IS AUTHORIZED TO EXECUTE SAID PLAN ON BEHALF OF THE CORPORATION, THAT THE PLAN HERETO WAS MADE AT ITS 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 AND PERMANENT FIXTURES THAT CAN BE ALTERED OR REMOVED ONLY AFTER APPROVAL OF A REVISED STORMWATER MANAGEMENT SITE PLAN BY THE TOWNSHIP.

Name/Title
MT. PLEASANT VENTURES, LLC

DATE

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 _____, 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 _____, 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 OF REGULARLY SCHEDULED INDIVIDUALS TO 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 APPROVAL OF THE 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

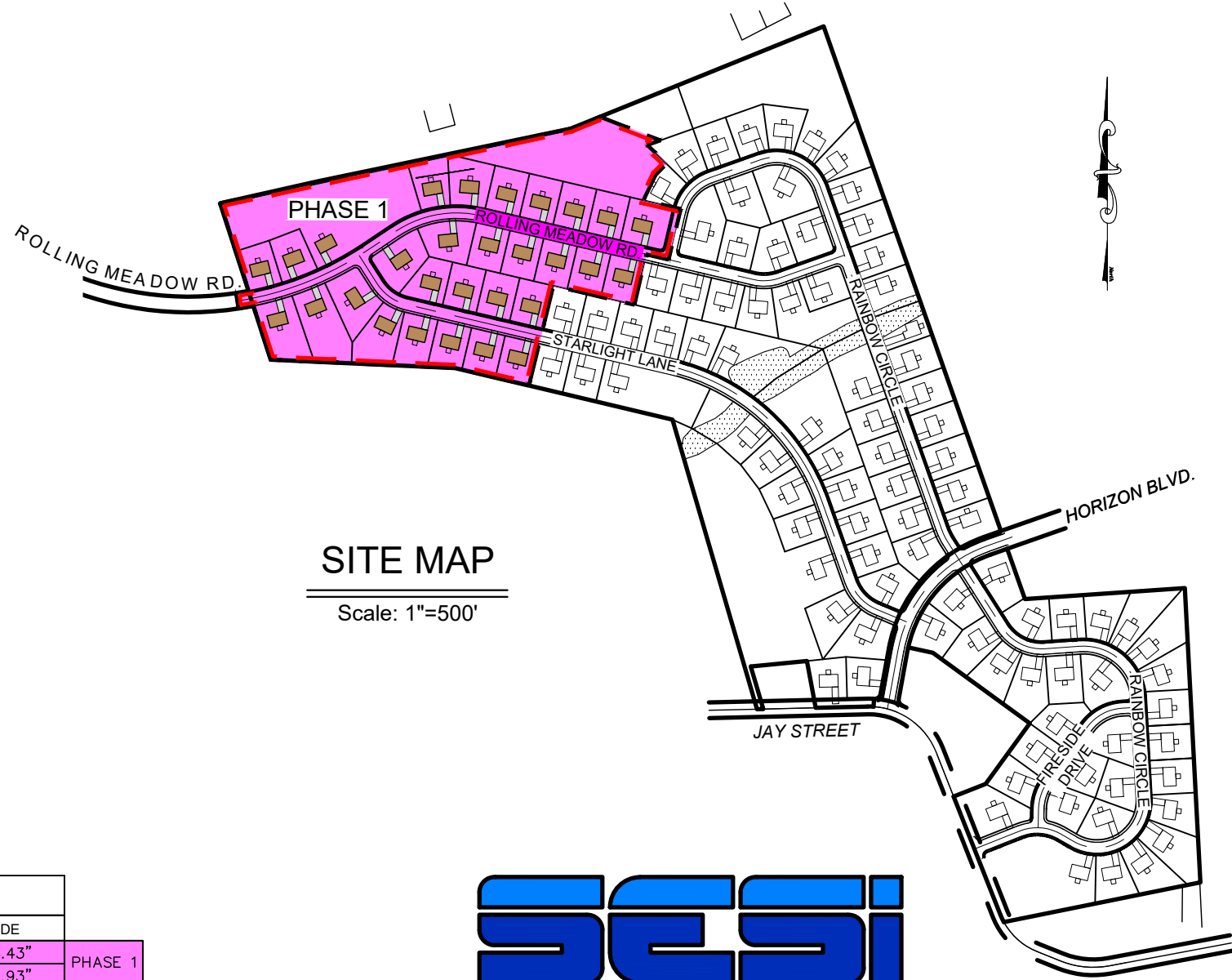
APPROVED

DATE

FINAL PHASE 1 SUBDIVISION & LAND DEVELOPMENT PLAN FOR THE ESTATES AT HEARTHSIDE OWNER: MT. PLEASANT VENTURES, LLC

LOCATED IN
NORTH LEBANON TOWNSHIP
LEBANON COUNTY, PENNSYLVANIA
JUNE 19, 2024

REVISION	DATE	BY
PER ARRO LETTER DATED 7/3/24	8/12/24	CDS
PER NLTA REVISIONS	8/12/24	CDS
PER LCPD LETTER DATED 7/16/24	8/12/24	CDS
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SITE MAP

Scale: 1"=500'

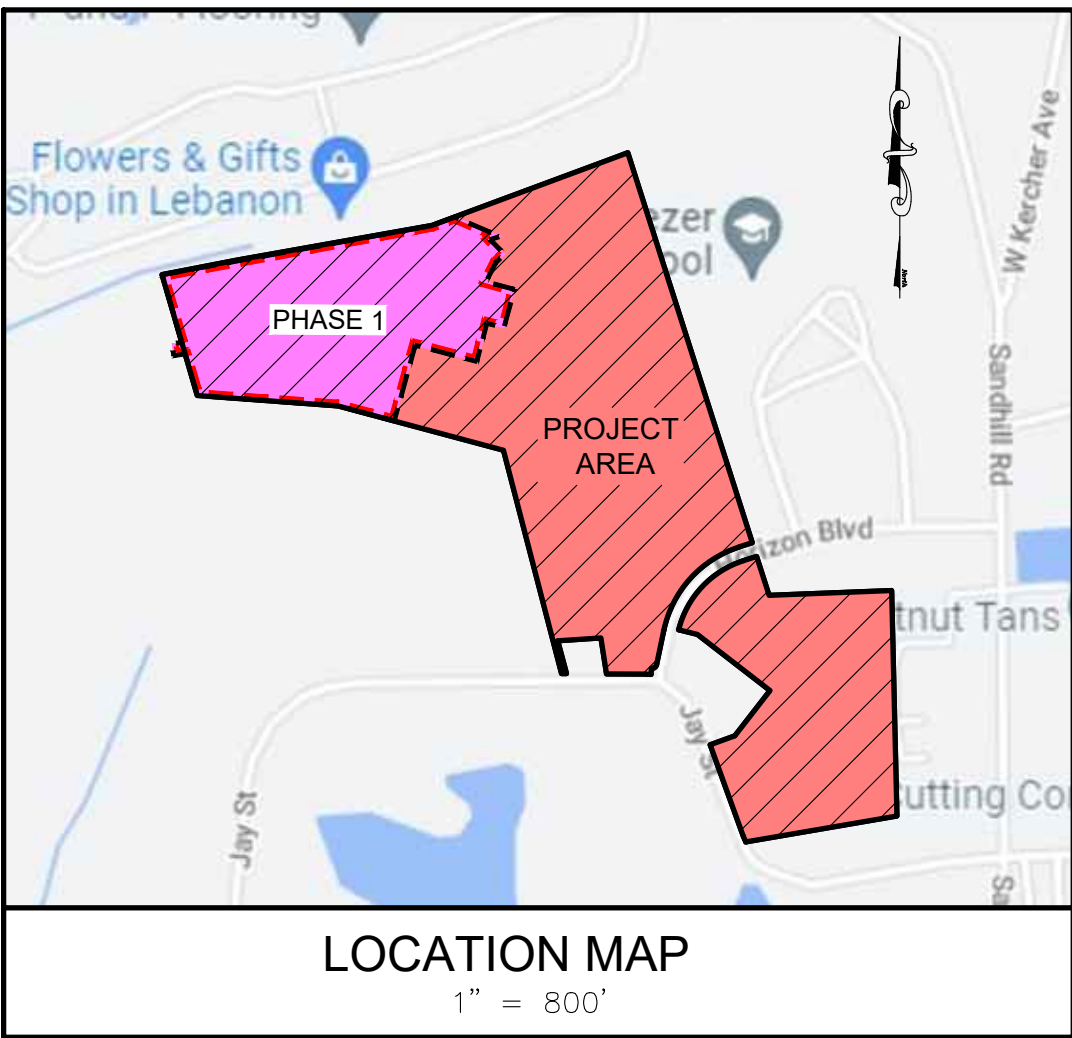


Stecki Engineering & Surveying, Inc.
279 North Zionsville Road, Suite A
Lebanon, Pennsylvania 17042
Phone: (717) 272-7110
Fax: (717) 272-7348

LIST OF DRAWINGS

Phase 1 Drawing List Table	
Sheet Number	Sheet Title
1	COVER SHEET
2	NOTES
3	OVERALL EXISTING CONDITIONS PLAN
4	EXISTING CONDITIONS PLAN
5	EXISTING CONDITIONS PLAN
6	EXISTING CONDITIONS PLAN
7	EXISTING CONDITIONS PLAN
8	OVERALL SUBDIVISION PLAN
9	SUBDIVISION PLAN
10	LAYOUT PLAN
11	EASEMENT PLAN
12	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN
13	POST CONSTRUCTION STORMWATER MANAGEMENT NOTES
14	POST CONSTRUCTION STORMWATER MANAGEMENT NOTES
15	POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS
16	POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS
17	POST CONSTRUCTION STORMWATER MANAGEMENT OUTLET DETAILS
18	GRADING PLAN
19	UTILITY PLAN
20	LANDSCAPING PLAN
21	LIGHTING PLAN
22	PROFILES
23	PROFILES
24	PROFILES
25	SITE DETAILS
26	SANITARY SEWER DETAILS
27	SANITARY SEWER DETAILS
28	WATER DETAILS
29	EROSION & SEDIMENTATION POLLUTION CONTROL PLAN
30	EROSION & SEDIMENTATION POLLUTION CONTROL NOTES
31	EROSION & SEDIMENTATION POLLUTION CONTROL NOTES
32	EROSION & SEDIMENTATION POLLUTION CONTROL DETAILS
33	EROSION & SEDIMENTATION POLLUTION CONTROL DETAILS

*SHEETS 1 THROUGH 17 TO BE RECORDED



LOCATION MAP

1" = 800'

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: 27-233478-376807-0000
PLAN: 69-111
ACRES: 16.53 AC. (720,083 S.F.)

ZONING COMPLIANCE CHART

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

	REQUIRED	PROPOSED
MIN. LOT AREA	15,000 S.F.	15,000 S.F.
MIN. LOT WIDTH	110'	110' (MIN.)
MAX. LOT COVERAGE	30%	30% (MAX.)
FRONT YARD SETBACK	40'	40' (MIN.)
-BUILDING		
SIDE YARD SETBACK	15'	15' (MIN.)
-BUILDING		
REAR YARD SETBACK	25'	25' (MIN.)
-BUILDING		
BUILDING HEIGHT	35'	35' (MAX.)

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	UNITS	START	COMPLETE
PHASE 1	29 UNITS	2024	2025
PHASE 2	23 UNITS	2025	2026
PHASE 3	13 UNITS	2026	2027
PHASE 4	24 UNITS	2027	2028
PHASE 5	31 UNITS	2028	2029

120 UNITS TOTAL



SERIAL NUMBER: 20242180230 (NORTH LEBANON TOWNSHIP)

DATE: 8/5/24
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: EXCAVATION OR DEMOLITION 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 DESIGNATION. ANY REQUEST FOR 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. MADE A REASONABLE EFFORT TO PREPARE THE CONSTRUCTION DRAWING(S) AVOID DAMAGE TO AND MINIMIZE INTERFERENCE WITH A FACILITY OWNERS FACILITIES IN THE CONSTRUCTION AREA BY MAINTAINING AN EIGHTEEN-INCH CLEARANCE OF THE FACILITY OWNERS FACILITIES WHERE POSSIBLE.

(4) PURSUANT TO SECTION 4, CLAUSE (5) OF SAID ACT, STECKBECK ENGINEERING & SURVEYING, INC. DOES NOT DEEM TO HAVE MET THE OBLIGATIONS OF CLAUSE (2) BY CALLING A ONE CALL SYSTEM AND SHOWING AS PROOF THE SERIAL NUMBER OF THE ONE CALL NOTICE ON THE DRAWING(S).

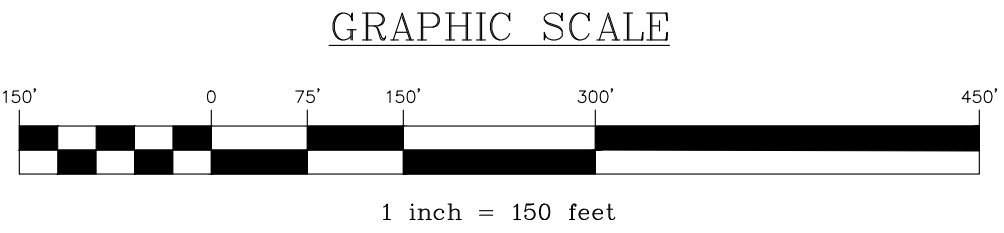
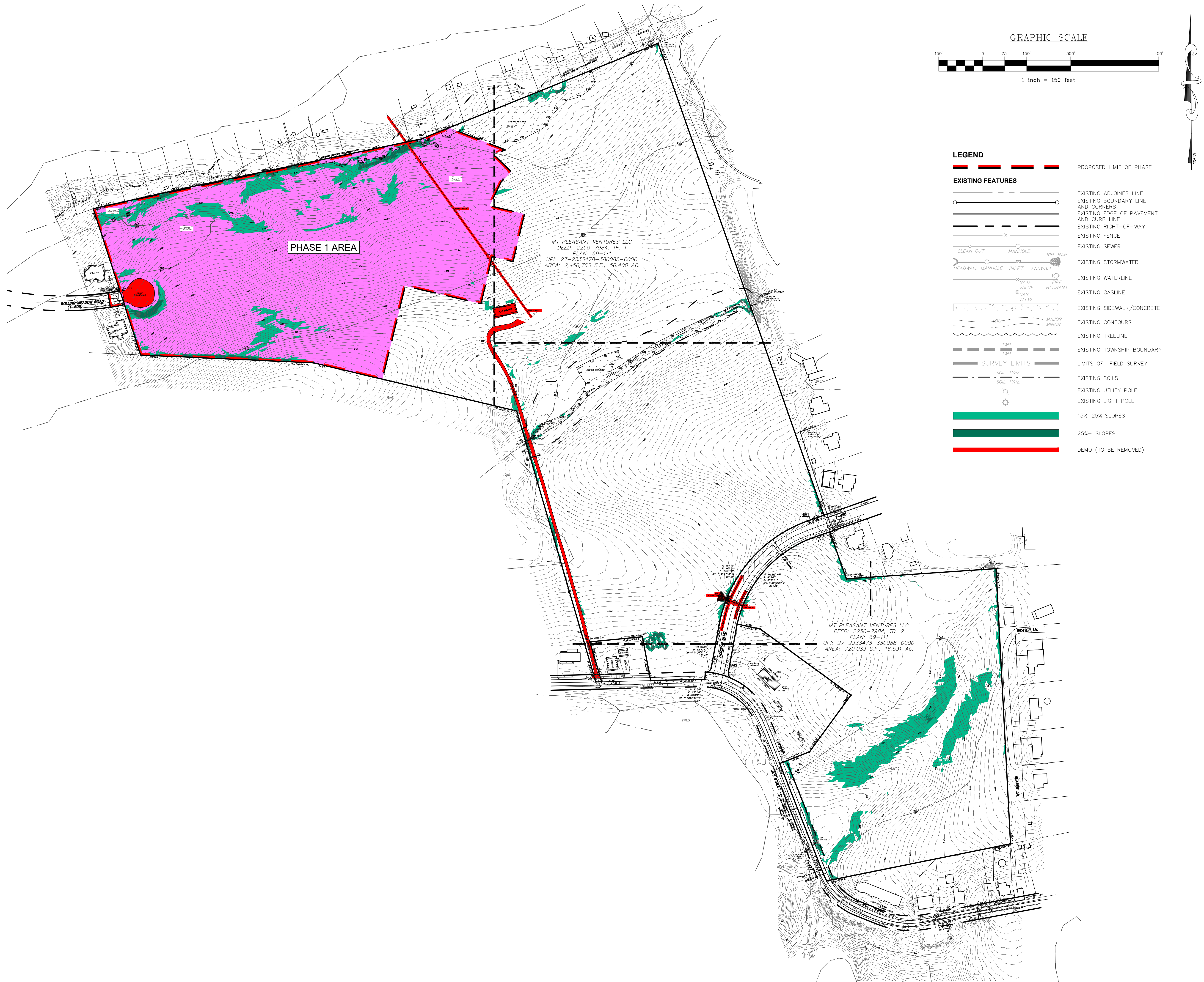
NORTH LEBANON TOWNSHIP, LEBANON COUNTY (B NO. 2022087279). AND STECKBECK ENGINEERING & SURVEYING, INC. DOES NOT MAKE ANY REPRESENTATION, WARRANTY, ASSURANCE OR GUARANTEE THAT THE INFORMATION RECEIVED PURSUANT TO SAID REQUEST AND AS REFLECTED ON THE DRAWING(S) IS CORRECT OR ACCURATE, BUT STECKBECK ENGINEERING & SURVEYING, INC. IS REFLECTING SAID INFORMATION ON THE DRAWINGS ONLY DUE TO THE REQUIREMENTS OF THE SAID ACT 187, DECEMBER 19, 1996.

ORGANIZATION: PENNSYLVANIA CITY OF JAY STREET
2200 WEST CHESTNUT ST
LEBANON, PA 17044
CONTACT - BOB SENITZ
BOB@STECKBECKENGINEERING.COM

WINDSTREAM
1450 CENTER POINT RD
AMERIN, OH 44308
CONTACT - CARA WARREN
CARA@WINDSTREAMCORP.COM

NORTH LEBANON TOWNSHIP
725 KIMMERLINGS ROAD
LEBANON, PA 17046
CONTACT - OFFICE PERSONNEL
VERIZON PENNSYLVANIA LLC
1026 HAY ST
PITTSBURGH, PA 15221
CONTACT - DEBRAH BARIM
debrah.d.dela@verizon.com

USO UTILITIES INC.
1301 AIP DR
MEADOWTON, PA 17057
CONTACT - STEPHEN BATEMAN
sbatesman@usgi.com

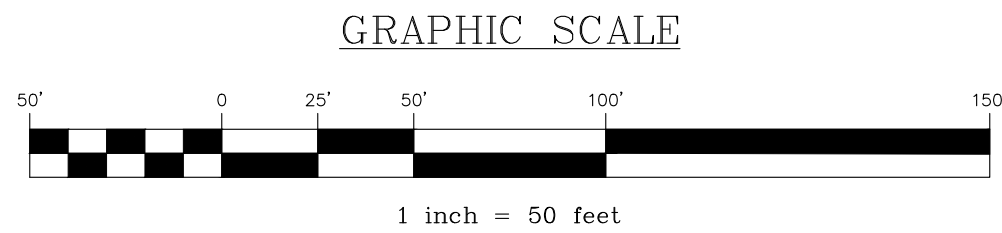
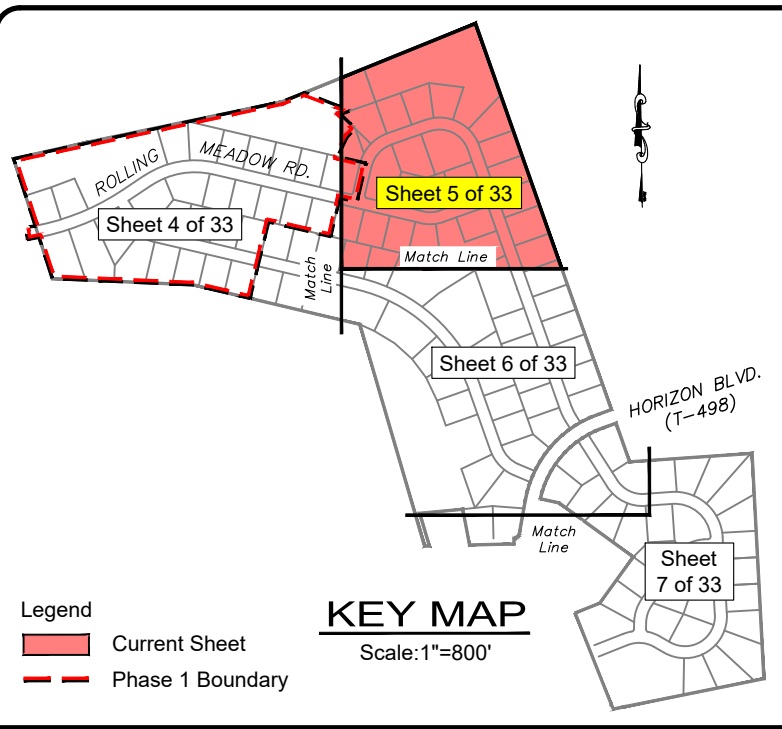
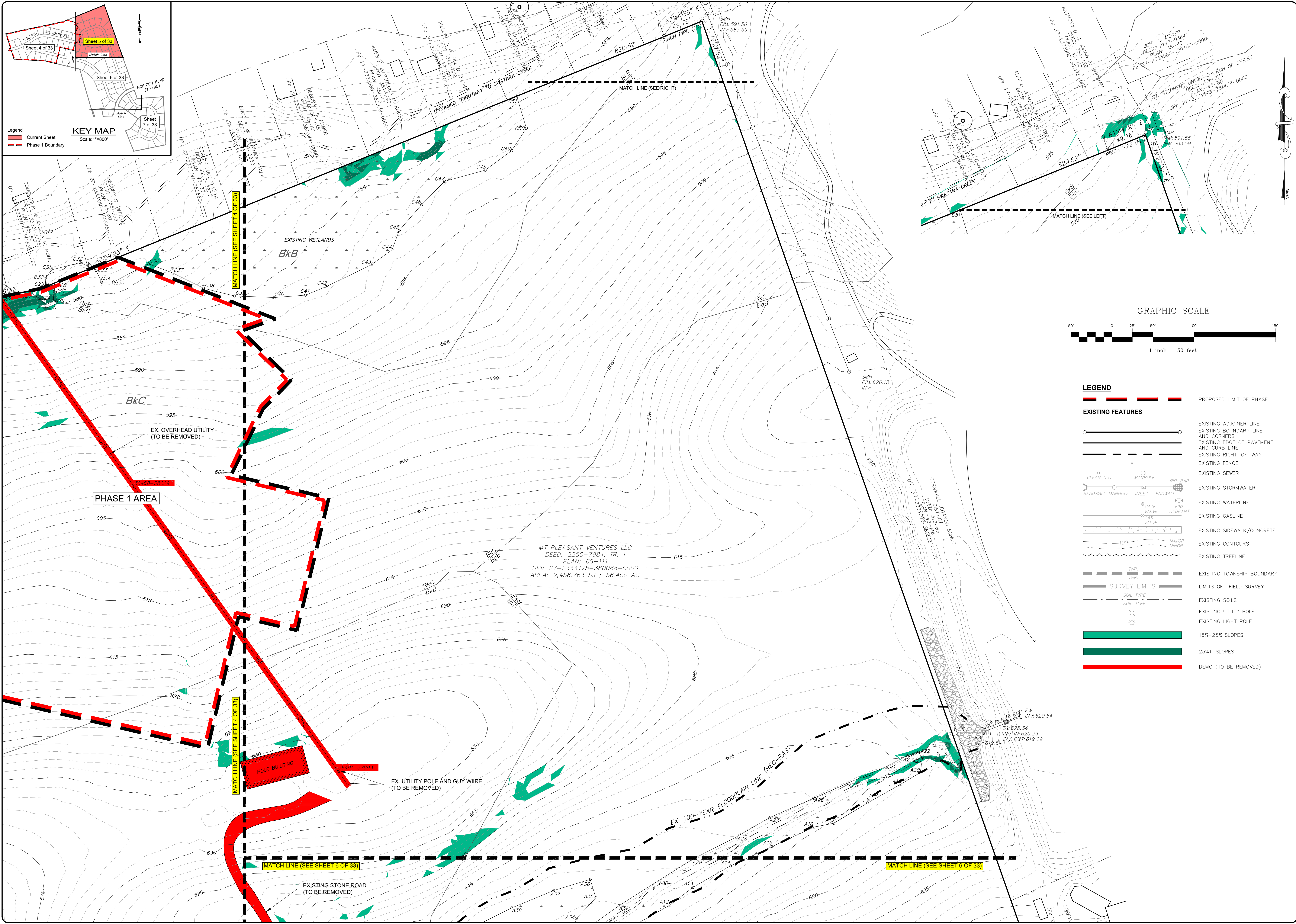


- LEGEND**
- EXISTING FEATURES**
- PROPOSED LIMIT OF PHASE
 - EXISTING ADJOINER LINE
 - EXISTING BOUNDARY LINE AND CORNERS
 - EXISTING EDGE OF PAVEMENT AND CURB LINE
 - EXISTING RIGHT-OF-WAY
 - EXISTING FENCE
 - EXISTING SEWER
 - EXISTING STORMWATER
 - EXISTING WATERLINE
 - EXISTING GASLINE
 - EXISTING 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
FINAL - PHASE 1
SUBDIVISION & LAND DEVELOPMENT PLAN
THE ESTATES AT HEARTSHIDE

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:	6/19/24
SCALE:	1"=150'
PROJECT #	784-24-001



- LEGEND**
- EXISTING FEATURES**
- PROPOSED LIMIT OF PHASE
 - EXISTING ADJOINER LINE
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EXISTING CONDITIONS PLAN

FINAL - PHASE 1

SUBDIVISION & LAND DEVELOPMENT PLAN

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

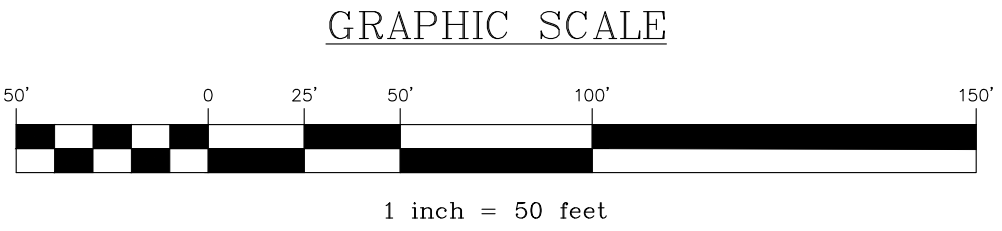
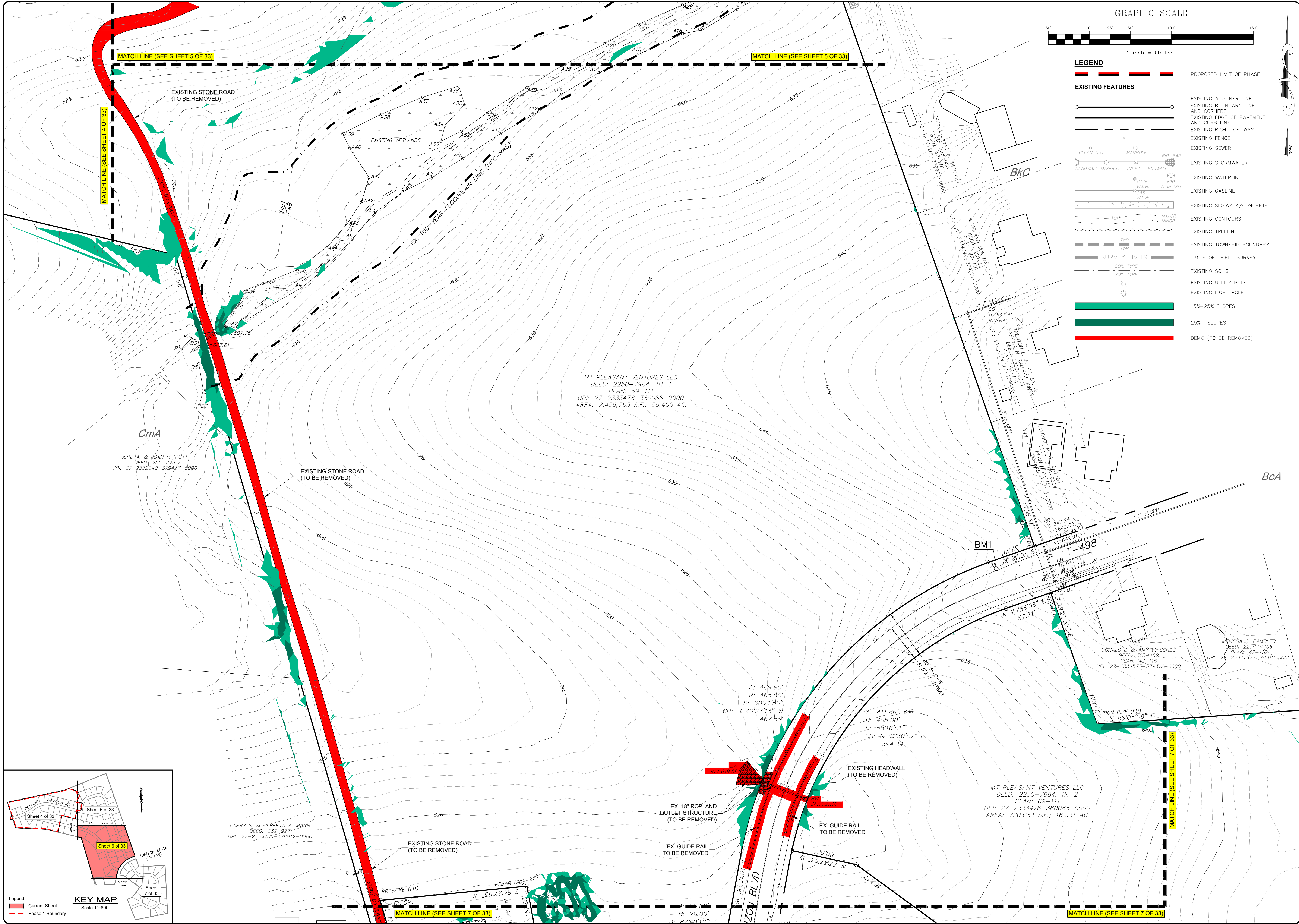
DATE: 6/19/24

SCALE: 1"=50'

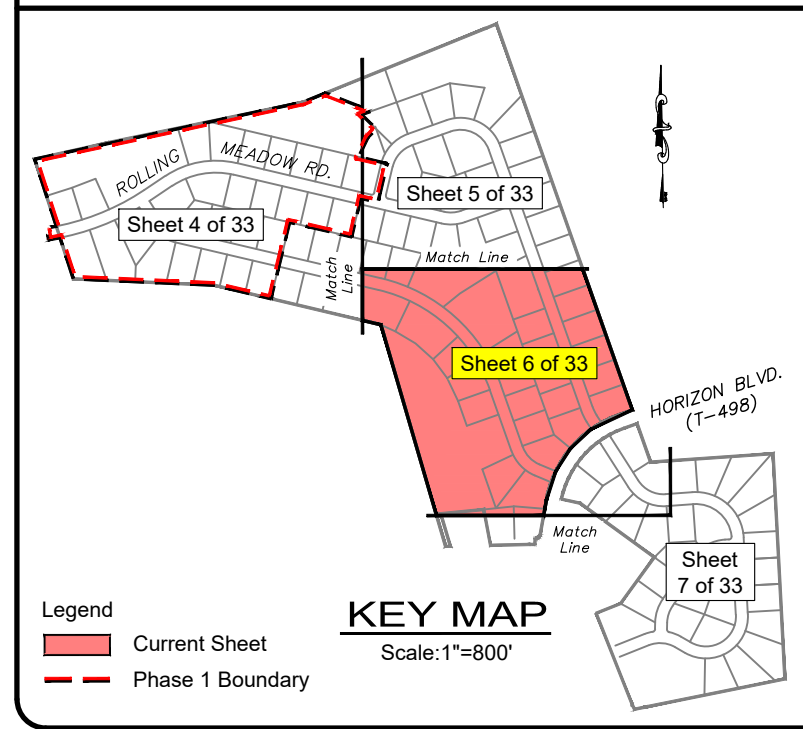
PROJECT #784-24-001

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5 OF 33 SHEETS



LEGEND	
	PROPOSED LIMIT OF PHASE
EXISTING FEATURES	
	EXISTING ADJOINER LINE
	EXISTING BOUNDARY LINE
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	EXISTING TOWNSHIP BOUNDARY
	LIMITS OF FIELD SURVEY
	EXISTING SOILS
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	15%-25% SLOPES
	25%+ SLOPES
	DEMO (TO BE REMOVED)



EXISTING CONDITIONS PLAN

FINAL - PHASE 1

SUBDIVISION & LAND DEVELOPMENT PLAN

THE ESTATES AT HEARTSHIDE

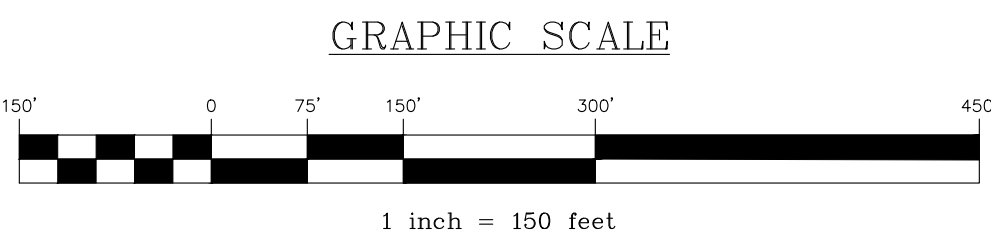
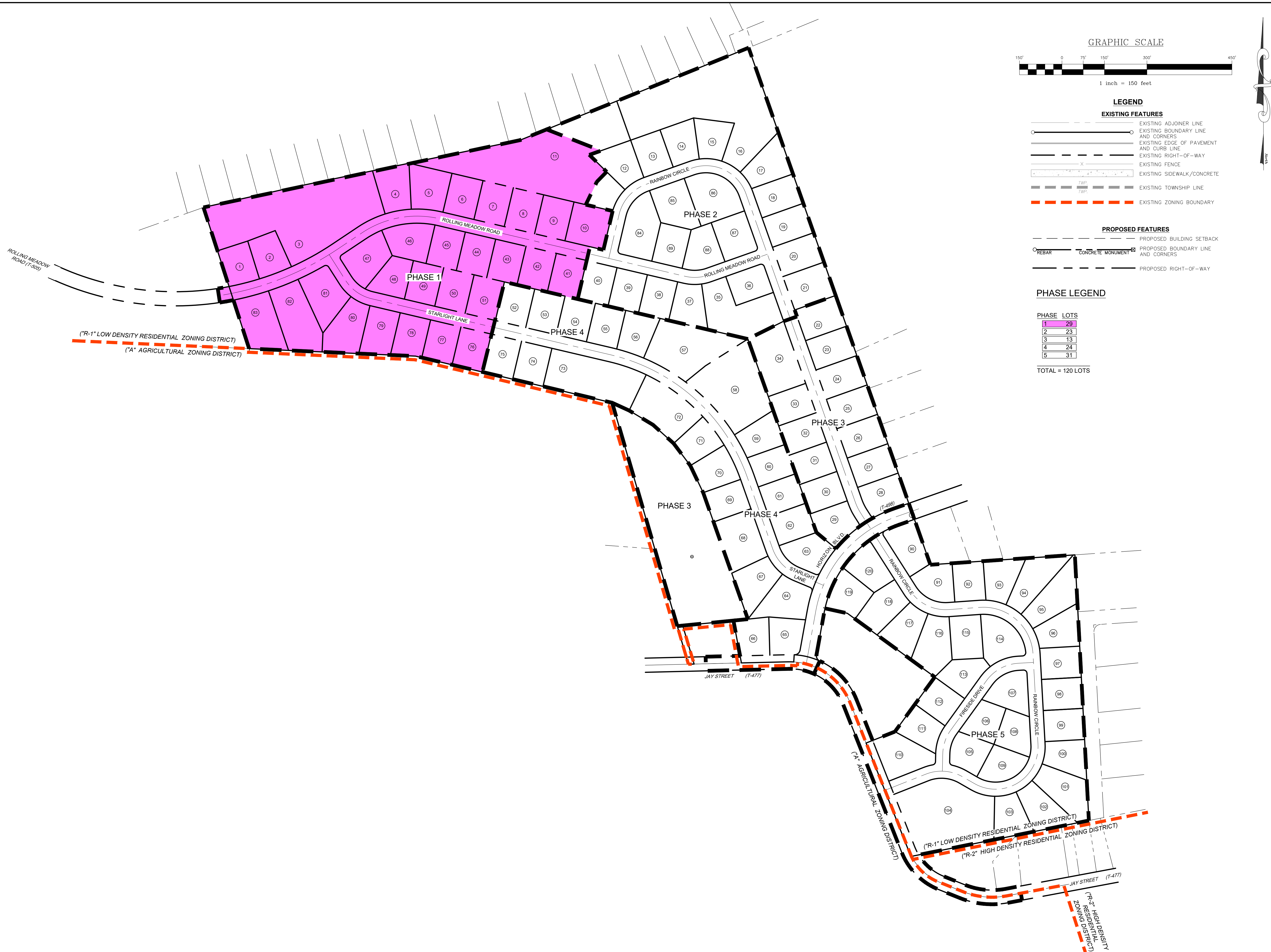
located in
NORTH LEBANON TOWNSHIP
LEBANON County, Pennsylvania

BY	CDS
DATE	8/12/24
REVISION	PER ARRO LETTER DATED 7/3/24
REVISION	PER NITMA REVISIONS
REVISION	PER LOPD LETTER DATED 7/16/24

FIELD CREW:	MOD,JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	6/19/24
SCALE:	1"=50'
PROJECT #	784-24-001

6

6 OF 33 SHEETS



- 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

PHASE LEGEND

PHASE	LOTS
1	29
2	23
3	13
4	24
5	31

TOTAL = 120 LOTS

BY	CDS
DATE	8/12/24

REVISION	DATE	BY
PER ARRO LETTER DATED 7/3/24	8/12/24	CDS
PER NITMA REVISIONS	8/12/24	CDS
PER LOPD LETTER DATED 7/16/24	8/12/24	CDS

OVERALL SUBDIVISION PLAN
FINAL - PHASE 1
SUBDIVISION & LAND DEVELOPMENT PLAN
THE ESTATES AT HEARTSHIDE
located in
NORTH LEBANON TOWNSHIP
LEBANON County, Pennsylvania

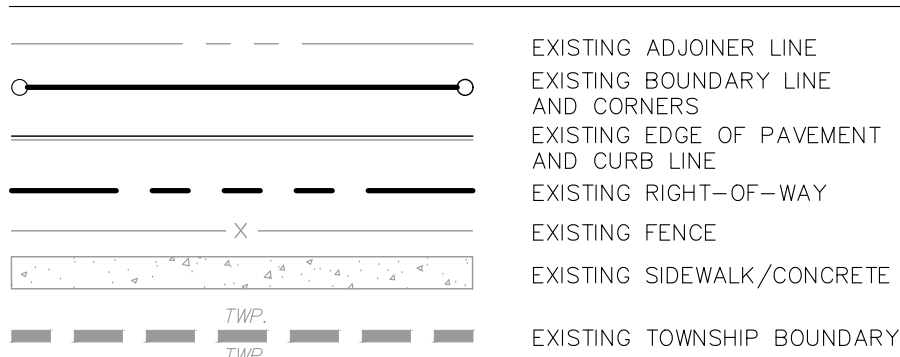
ESI
Steckbeck Engineering & Surveying, Inc.
279 Lebanon, Pennsylvania 17042
Phone: (717) 272-7110
Fax: (717) 272-7348

FIELD CREW:	MOD,JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	6/19/24
SCALE:	1"=150'
PROJECT #	784-24-001

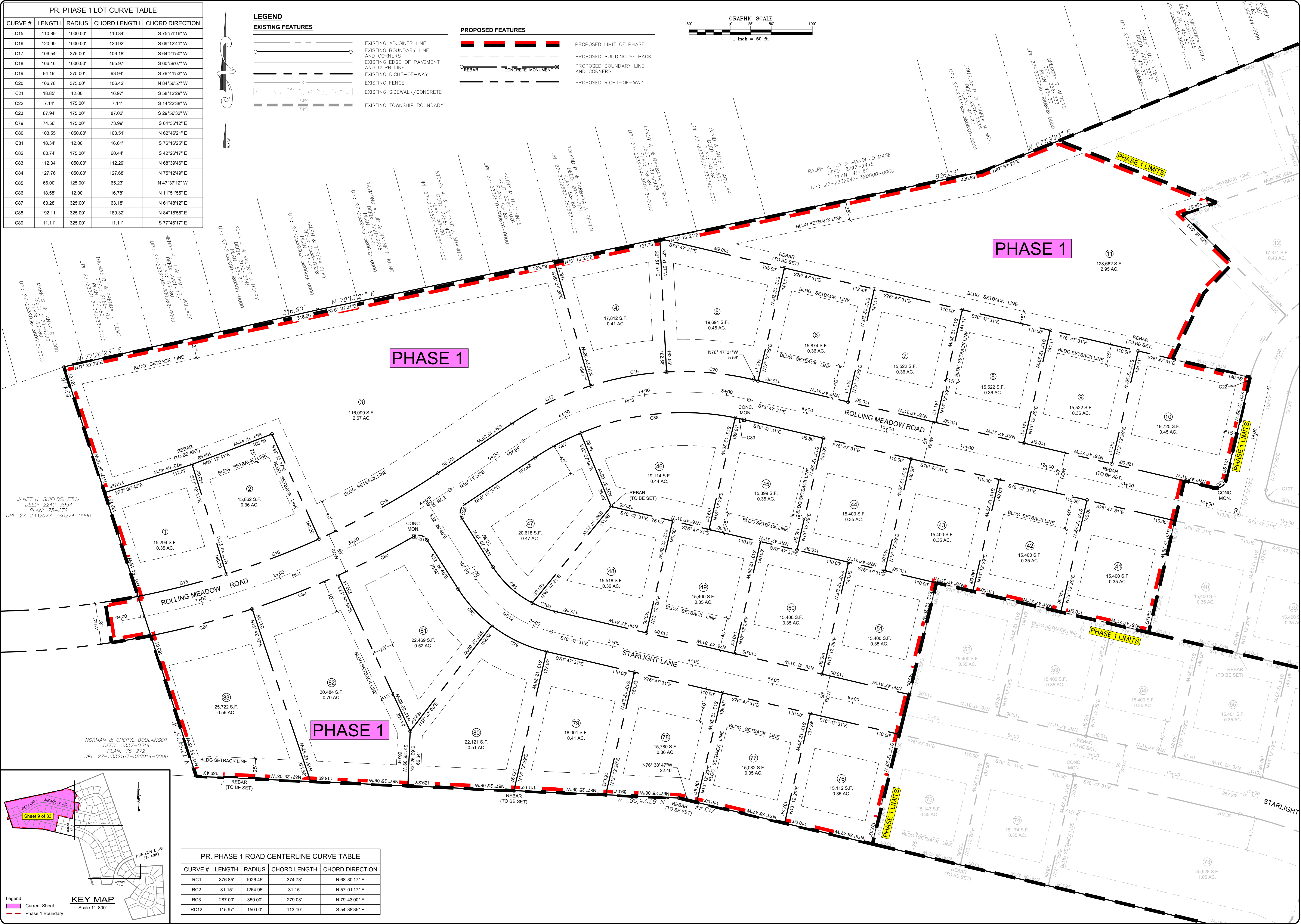
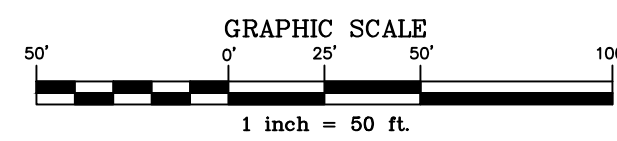
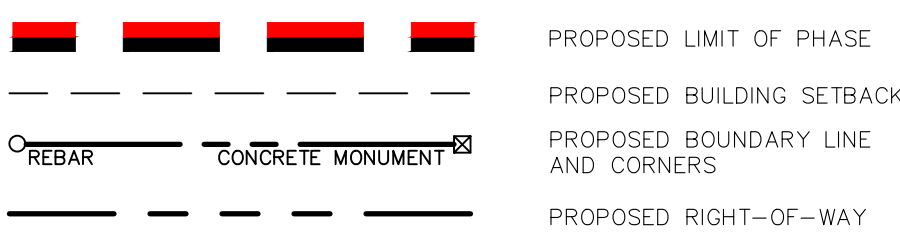
PR. PHASE 1 LOT CURVE TABLE				
CURVE #	LENGTH	RADIUS	CHORD LENGTH	CHORD DIRECTION
C15	110.89'	1000.00'	110.84'	S 75°51'16" W
C16	120.99'	1000.00'	120.92'	S 69°12'41" W
C17	106.54'	375.00'	106.18'	S 64°21'50" W
C18	166.16'	1000.00'	165.97'	S 60°59'07" W
C19	94.19'	375.00'	93.94'	S 79°41'53" W
C20	106.78'	375.00'	106.42'	N 84°56'57" W
C21	18.85'	12.00'	16.97'	S 58°12'29" W
C22	7.14'	175.00'	7.14'	S 14°22'38" W
C23	87.94'	175.00'	87.02'	S 29°56'32" 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

LEGEND

EXISTING FEATURES

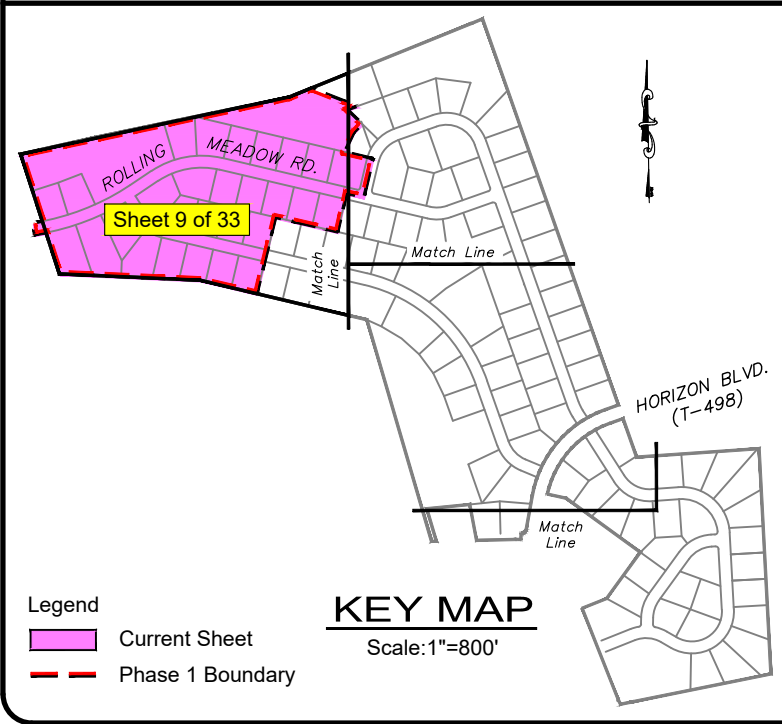


PROPOSED FEATURES



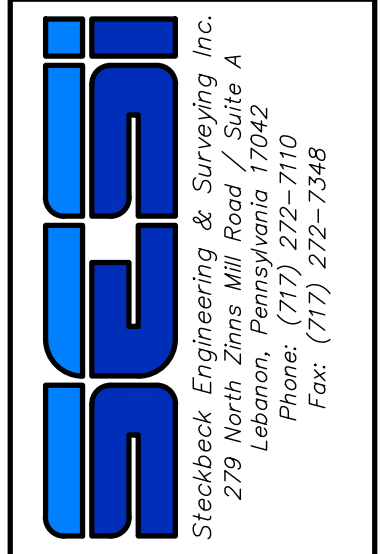
PR. PHASE 1 ROAD CENTERLINE CURVE TABLE

CURVE #	LENGTH	RADIUS	CHORD LENGTH	CHORD DIRECTION
RC1	376.85'	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

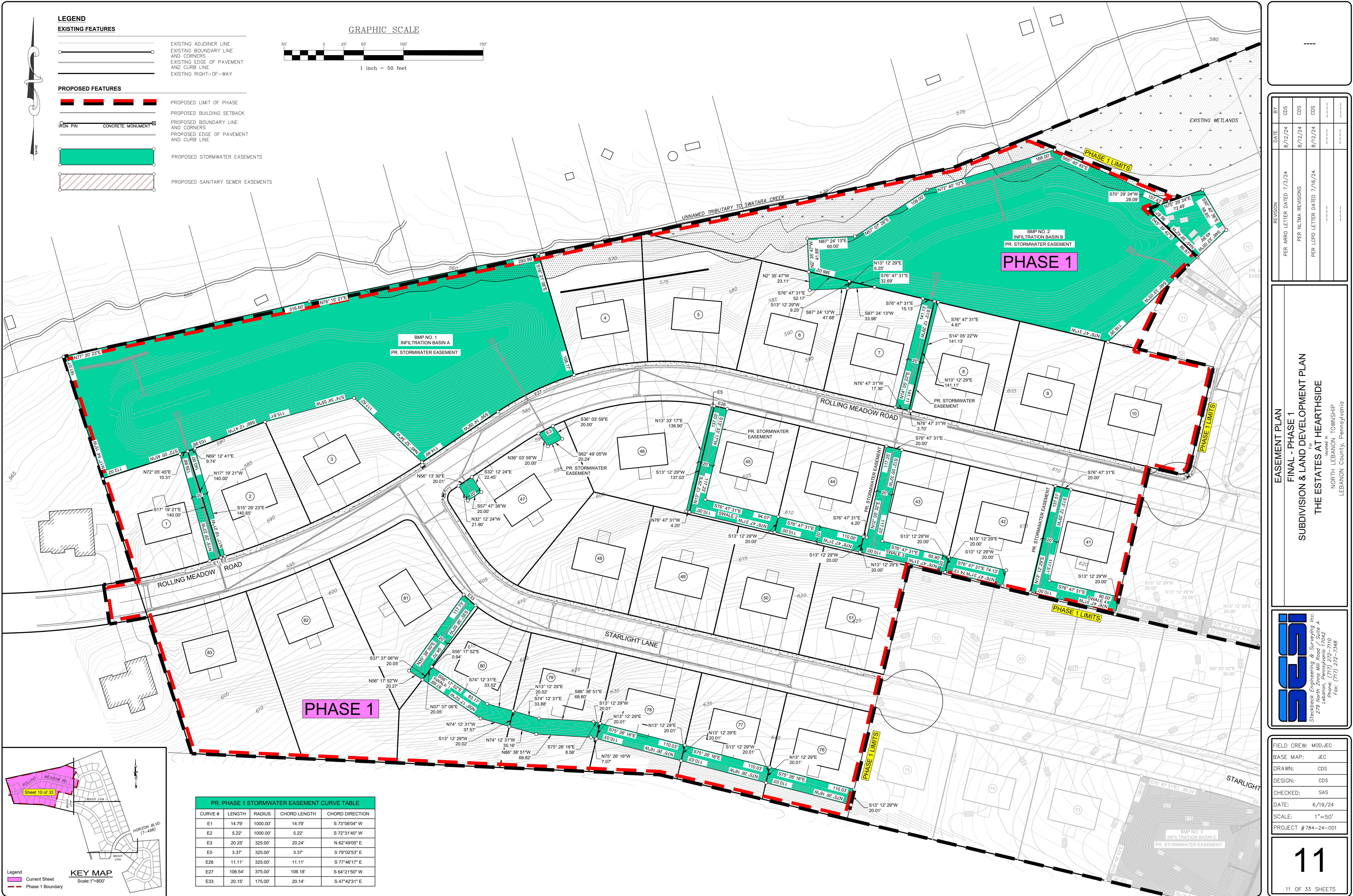


BY	DATE	REVISION
CDS	8/12/24	PER ARRO LETTER DATED 7/3/24
CDS	8/12/24	PER NLTMA REVISIONS
CDS	8/12/24	PER LOPD LETTER DATED 7/16/24

SUBDIVISION PLAN
FINAL - PHASE 1
SUBDIVISION & LAND DEVELOPMENT PLAN
THE ESTATES AT HEARTSIDE



FIELD CREW: MOD/JEC
BASE MAP: JEC
DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 6/19/24
SCALE: 1"=50'
PROJECT #784-24-001



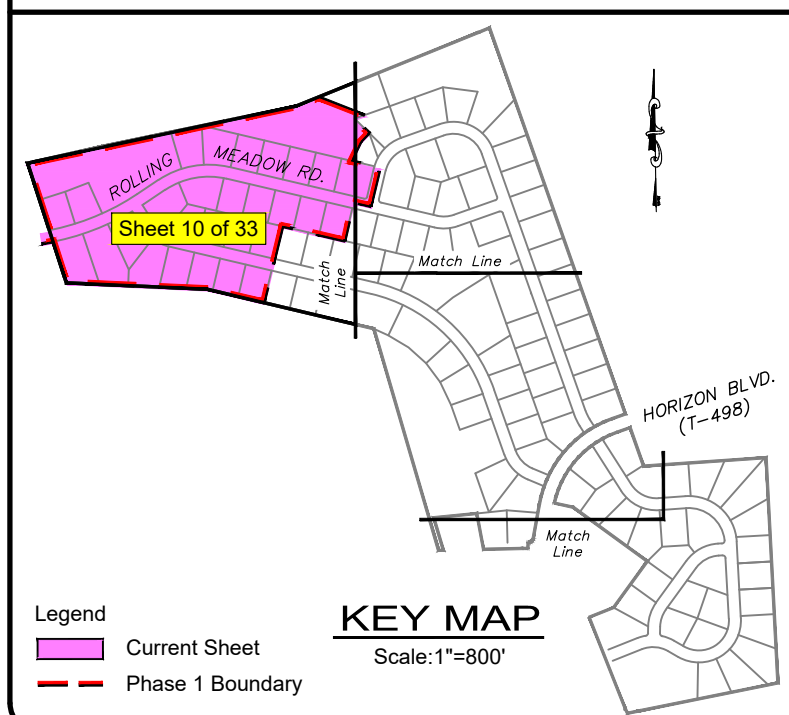
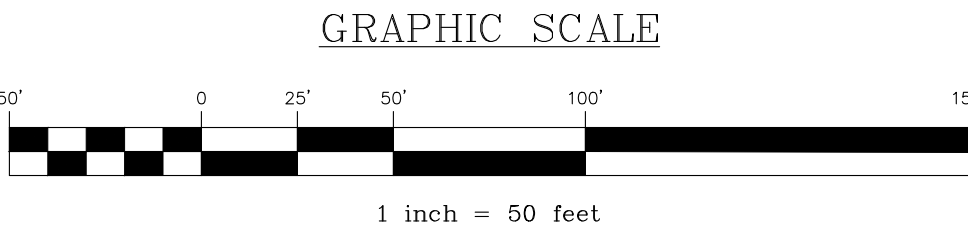
LEGEND

EXISTING FEATURES

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

PROPOSED FEATURES

- PROPOSED LIMIT OF PHASE
- PROPOSED BUILDING SETBACK
- PROPOSED BOUNDARY LINE AND CORNERS
- PROPOSED EDGE OF PAVEMENT AND CURB LINE
- PROPOSED STORMWATER EASEMENTS
- PROPOSED SANITARY SEWER EASEMENTS



PR. PHASE 1 STORMWATER EASEMENT CURVE TABLE				
CURVE #	LENGTH	RADIUS	CHORD LENGTH	CHORD DIRECTION
E1	14.79'	1000.00'	14.79'	S 73°06'04" W
E2	5.22'	1000.00'	5.22'	S 72°31'40" W
E3	20.25'	325.00'	20.24'	N 62°49'05" E
E5	3.37'	325.00'	3.37'	S 79°02'53" E
E26	11.11'	325.00'	11.11'	S 77°46'17" E
E27	106.54'	375.00'	106.18'	S 64°21'50" W
E33	20.15'	175.00'	20.14'	S 47°42'31" E

EASEMENT PLAN

FINAL - PHASE 1

SUBDIVISION & LAND DEVELOPMENT PLAN

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: 6/19/24

SCALE: 1"=50'

PROJECT # 784-24-001

11

11 OF 33 SHEETS

BY: CDS

DATE: 8/12/24

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REVISION: PER NLTMA REVISIONS

DATE: 8/12/24

REVISION: PER LOPD LETTER DATED 7/16/24

DATE: 8/12/24

Steckbeck Engineering & Surveying, Inc.

279 Lebanon, Pennsylvania 17042

Phone: (717) 272-7110

Fax: (717) 272-1348

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 MT. PLEASANT VENTURES SUBDIVISION, LOCATED ON BOTH SIDES OF HORIZON BOULEVARD BETWEEN JAY STREET AND COLONIAL 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 72.93 ACRES. THE TOTAL SITE AND EARTH DISTURBANCE AS PART OF THIS PROJECT IS APPROXIMATELY 67.59 ACRES. THE CURRENT SITE CONSISTS OF OPEN AGRICULTURAL FIELDS AND ONE EXISTING BASIN, BASED ON THE 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 BORDERED TO THE WEST BY THE RESIDENTIAL HOMES OF THE BRENEZER ELEMENTARY SCHOOL, TO THE SOUTH BY HORIZON BOULEVARD, TO THE WEST BY AGRICULTURAL AND RESIDENTIAL PROPERTY, AND TO THE NORTH BY INDUSTRIAL PROPERTIES. THE SOUTHERN PORTION OF THE SITE IS BORDERED TO THE EAST AND WEST BY INDUSTRIAL PROPERTIES, AND TO THE NORTH BY HORIZON BOULEVARD. THE PROPOSED IMPROVEMENTS INCLUDE THE CONSTRUCTION OF 120 SINGLE-FAMILY HOMES WITH DRIVEWAYS, STREETS, CONNECTION TO PUBLIC SEWER AND WATER, AND ASSOCIATED STORMWATER MANAGEMENT FACILITIES. THE ANTICIPATED SITE DISTURBANCE SHALL INCLUDE GRADING AS WELL AS ADDITIONAL IMPERVIOUS AREAS WHICH WILL BE TREATED ON-SITE BY STORMWATER MANAGEMENT BMP'S. SIX (6) ABOVE GROUND INFILTRATION BASINS, AND ONE (1) DETENTION BASIN WILL BE DESIGNED 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 WARM WATER AREAS (WWA) 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 5 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 RUNOFF GENERATED FROM THE SITE IS LESS THAN OR EQUAL TO THE PRE-DEVELOPMENT RUNOFF. FOLLOWING THE REQUIREMENTS OF THE PA CODE CHAPTER 102.B 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 STRUCTURAL BMP'S ARE DESIGNED TO MANAGE THE DISCHARGE RATE TO A RATE EQUAL TO OR LOWER THAN THE PRE-DEVELOPMENT RATE AND TO INFILTRATE THE 2-VR 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, THE PRE-DEVELOPMENT DISCHARGE FLOW RATES MUST MEET THE FOLLOWING CRITERIA:

	Pre-Developed	Post-Developed
2-year	<= to 1.0 cfs Pre	<= to 1.0 cfs Pre
5-year	<= to 2.0 cfs Pre	<= to 2.0 cfs Pre
10-year	<= to 5.0 cfs Pre	<= to 5.0 cfs Pre
25-year	<= to 25.0 cfs Pre	<= to 25.0 cfs Pre
100-year	<= to 100.0 cfs Pre	<= to 100.0 cfs Pre

THE SCS METHOD WAS USED TO DETERMINE PEAK FLOW RATES FOR BOTH PRE- AND POST-DEVELOPED CONDITIONS. THE RESULTING POST DEVELOPMENT FLOW RATES HAVE BEEN REDUCED TO REQUIRED PRE-DEVELOPMENT RELEASE RATES AS SHOWN IN THE TABLE ABOVE. THE STORMWATER FACILITIES WILL SATISFY THE APPLICABLE STORMWATER MANAGEMENT RATE REQUIREMENTS, WHICH CAN BE SEEN IN THE FLOW SUMMARY TABLE. HYDROCAD V10.0 SOFTWARE WAS USED TO PERFORM ALL BASIN ROUTING CALCULATIONS.

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 POINTS 001-003 (DP 001-003) ARE LOCATED ADJACENT TO THE NORTHERN PROPERTY LINE AND WILL DISCHARGE TO THE UNIT TO SWATARA CREEK LOCATED LESS THAN 100' TO THE NORTH. PRE-DEVELOPMENT RUNOFF SHEET FLOW ALONG THE ENTIRE PROPERTY LINE DOWN THE UNIT TO SWATARA CREEK. DPS 001-003 HAVE BEEN ESTABLISHED AT THE LOCATION OF THE PROPOSED BASIN OUTLET LEVEL SPREADERS IN ORDER TO PROVIDE AN ACCURATE PRE- TO POST-DEVELOPMENT ANALYSIS.

DISCHARGE POINT 004 (DP 004) IS LOCATED ALONG THE WESTERN PROPERTY LINE WHERE WATERCOURSE 2 LEAVES THE SITE AT THE BOTTOM OF WELAND 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 BROOD 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 LANED 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 SITE AND PROPOSED IMPERVIOUS AREAS. THE TREATMENT OF THIS RUNOFF WILL BE COOLED BY THE NATIVE VEGETATION IN THE BASIN BOTTOMS BEFORE BEING INFILTRATED THROUGH THE ENGINEERED SOIL MIX AND INTO THE GROUND. RUNOFF REACHING THE DETENTION BASIN WILL BE COOLED BY THE NATIVE VEGETATION IN THE BASIN BOTTOM BEFORE BEING SLOWLY RELEASED TO THE GROUND SURFACE. TREES ARE PLANTED IN AND AROUND THE STRUCTURAL AND NON-STRUCTURAL BMP'S TO SHADE A PORTION OF THESE AREAS WHICH WILL PROVIDE TEMPERATURE RELIEF FOR RUNOFF THAT FLOWS OVER THE IMPERVIOUS SURFACES.

WATER QUALITY AND NON-NOISE DISCHARGE ANALYSIS

THE SITE HAS BEEN DESIGNED TO MEET THE NPDES REQUIREMENTS AS CALCULATED IN THE DEP PCSM SPREADSHEET - QUALITY, THROUGH THE IMPLEMENTATION OF THE STRUCTURAL BMP'S. THE WATER QUALITY REQUIREMENTS HAVE BEEN MET FOR THIS SITE. PLEASE SEE THE STANDARD DEP PCSM SPREADSHEETS FOR A MORE IN-DEPTH DESCRIPTION OF HOW THE REQUIREMENTS ARE MET FOR THIS SITE.

PROPOSED BEST MANAGEMENT PRACTICES

INFILTRATION BASIN - ONE (1) INFILTRATION 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 FAQ SHEET LABELED CHAPTER 102. OFF-SITE DISCHARGES OF STORMWATER TO NON-SURFACE WATERS (JANUARY 2019). FAQ #7 STATES, "PERSONS PROPOSING TO DISCHARGE MUST HAVE THE LEGAL AUTHORITY TO DISCHARGE. THE STORMWATER EITHER THROUGH EITHER A COMMON LAW EASEMENT OR AN EXPRESS EASEMENT, FOR SITES THAT DISCHARGE TO EXISTING SWALES, DITCHES, STORM SEWERS OR SIMILAR STRUCTURES WHERE THE NEW ACTIVITIES WILL NOT RESULT IN A CHANGE IN VOLUME OR RATE OF STORMWATER RUNOFF FOR ALL STORM EVENTS". THE EXISTING COMMON LAW EASEMENT COULD BE RELIED UPON.

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

CHAPTER 102.B (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 DOWNSIDE CHANNEL WILL NOT BE IMPACTED. THE SAME FLOW REDUCTION AND WATER QUALITY BENEFITS PROVIDED BY THE STRUCTURAL AND NON-STRUCTURAL BMP'S WILL ALSO SERVE 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 EARTH 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, CONSTRUCTION ENTRANCES, AND SEDIMENTATION BASINS.

Map Symbol	Soil Name	Slope	Hydrologic Group
BcB	Bedington silt loam	3-8%	B
BKc	Berks channery silt loam	3-8%	B
BKc	Berks channery silt loam	8-15%	B
BKc	Berks channery silt loam	15-25%	B
CwA	Comly silt loam	0-3%	C
WcC	Welckert channery silt loam	8-15%	D

"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 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 SILTSHALE. SILTSTONE AND GRAYWACKE ARE KARSTIC ROCKS. THE POTENTIAL FOR KARST 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 HAZARD.

BEDINGTON SOILS - THE BEDINGTON SERIES CONSISTS OF VERY DEEP, WELL DRAINED SOILS. BEDINGTON SOILS FORMED IN RESIDUUM FROM DARK BROWN, GRAY AND OLIVE-GRAY 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 52 DEGREES F. BEDINGTON SOILS MAY BE SUSCEPTIBLE TO CUT BANKS AND CAVE INS AND CORROSIVE TO CONCRETE. THIS SOIL MAY ALSO BE SUSCEPTIBLE TO DROUGHT AND MAY BE EASILY ERODIBLE. 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, CORROSIVE TO CONCRETE, DROUGHT, AND EASILY ERODIBLE. THIS SOIL MAY ALSO BE SUSCEPTIBLE TO HYDRIC INCLUSIONS, SLOW PERCOLATION, PIPING, AND A POOR SOURCE OF TOPSOIL.

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

WEICKERT SOILS - THE WEICKERT SERIES CONSIST OF SHALLOW, WELL DRAINED SOILS FORMED IN MATERIAL THAT WEATHERED FROM INTERBEDDED GRAY AND BROWN ACID 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. MEAN ANNUAL PRECIPITATION IS 44 INCHES. MEAN ANNUAL TEMPERATURE IS 51 DEGREES F. WEICKERT SOILS MAY BE SUSCEPTIBLE TO CUT BANKS AND CAVE INS, CORROSIVE 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 ERODIBLE: 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, DEWATERING 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 UNDISTURBED AREA UPSTREAM OF A PERIMETER CONTROL (FILTER SOCK).
- 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 IMMEDIATELY.
- 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/ANDERSON INSTALLATION, IF NECESSARY. INFILTRATION TESTS PREVIOUSLY PERFORMED INDICATED THAT THE INFILTRATION RATE AT THE INFILTRATION BASINS AND THE PROPOSED INFILTRATION FACILITIES. A DETENTION BASIN IS PROPOSED IN THE AREA WHERE INFILTRATION TESTING YIELDED NEGULGUE RESULTS.
- PIPING: ANTI-SEEP COLLARS WILL BE PROVIDED AS PART OF THE PCSM AND PIPELINE DESIGNS.
- POOR SOURCE OF TOPSOIL: THE TOPSOIL WILL BE EVALUATED 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 DIRECT WATER AWAY FROM BUILDINGS AND OTHER IMPERVIOUS SURFACES TO REDUCE THE LIKELIHOOD OF WATER INFILTRATING NEAR OR UNDER THESE STRUCTURES.
- SINKHOLE 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 KARST 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 HAZARD.
- 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 PERIMETER CONTROL (FILTER SOCK).

GENERAL SOIL NOTES

- 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 CONTROLS.
- ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLURPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTERED TO SUPPORT BUILDINGS, STRUCTURES, AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
- ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
- FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
- FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
- FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
- 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 NEGULGUE 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. 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 RUNOFF AND TO PREVENT 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 260.1 ET SEQ., 271.1, AND 287.1 ET SEQ. NO BUILDING MATERIALS OR WASTES SHALL BE BURIED, BURNED 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.

OUTLET PIPE, ANTI-SEEP COLLAR, CLAY CORE INSTALLATION

UNDERDRAIN AND AMENDED SOILS INSTALLATION

DETENTION BASIN D

EXCAVATION / ROUGH GRADING

OUTLET PIPE, ANTI-SEEP COLLAR, CLAY CORE INSTALLATION

PERMANENT SITE STABILIZATION

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. MAINTENANCE AND INSPECTION SHOULD BE ESTABLISHED, PRUNING AND WEEDING MAY BE REQUIRED.

2. DETRITUS 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 (UPGRADE OF INFILTRATION FACILITY) SHOULD BE INSPECTED AND CLEANED AT LEAST TWO TIMES PER YEAR AND 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'S SHOULD NOT BE A PROBLEM IF THE WATER DRAINS IN 72 HOURS. MOSQUITOES REQUIRE A CONSIDERABLY LONG BREEDING PERIOD WITH RELATIVELY STABLE WATER LEVELS.

9. ALSO INSPECT FOR ACCUMULATION OF SEDIMENT, DAMAGE TO OUTLET CONTROL STRUCTURES, EROSION CONTROL MEASURES, SIGNS OF WATER CONTAMINATION/SPILLS, AND SLOPE STABILITY IN THE BERMS.

10. THE SEED MIXTURE PLANTED IN THE BOTTOM OF THE BASINS SHALL BE MOWED 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 MOWED 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 WASTE RECYCLING FACILITY.

11. REMOVE ACCUMULATED SEDIMENT FROM BASIN AS REQUIRED, RETURN ORIGINAL CROSS SECTION AND INFILTRATION RATE.

12. SHOULD ANY INFILTRATION BASIN FAIL TO DETERIOR WITHIN A 72-HOUR TIME PERIOD THE OWNER SHALL INVESTIGATE ALTERNATIVE SOLUTIONS.

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 BASIN

A DETENTION BASIN IS AN EARTHEN STRUCTURE CONSTRUCTED EITHER BY IMPOUNDMENT OF A NATURAL DEPRESSION 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 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 PLACE ON A QUARTERLY BASIS. BASIN 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 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 STABILIZED.

2. STRUCTURES INCLUDE BASIN BODIES, TRASH RACKS, OUTLETS 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 DETRITUS 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 STAGING OF EARTHMOVING NOTES.

- 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 PREPARER, PCSM PLAN PREPARER, THE INSTALLED PROFESSIONAL, RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE OF THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION MEETING.
- UPON INSTALLATION OF PERIMETER EAS CONTROLS (SEE CONSTRUCTION SEQUENCE), INSTALL SEDIMENT BASINS.
- INSTALL ALL SWALES DURING ROUGH GRADING.
- INSTALL ALL UTILITIES.
- AFTER THE BUILDINGS AND STARLIGHT LANER CONSTRUCTED ADD TOPSOIL TO THE POST-CONSTRUCTION PERVIOUS AREAS TO BE PERMANENTLY STABILIZED.
- AFTER STABILIZATION OF THE SITE AREA, COMPACT 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".
- APPLY THE SPECIFIED PERMANENT STABILIZATION ACROSS THE SITE.

NPDES PERMIT NOTES

- PERMITTEE'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.
- PERMITTEE'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.
- ALL EARTHMOVING CONTRACTORS MUST BE ADDED AS CO-PERMITTEES TO THE NPDES PERMIT.
- SITE INSPECTIONS AND MONITORING REPORTS - THE PERMITTEE AND CO-PERMITTEE(S) SHALL COMPLY WITH ALL OF THE MONITORING AND REPORTING REQUIREMENTS, AS OUTLINED IN PART A.2 OF THE NPDES PERMIT. THE PERMITTEE AND CO-PERMITTEE(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 SITE INSPECTION IN ACCORDANCE WITH THE REQUIREMENTS OF PART A

SEQUENCE OF CONSTRUCTION – PHASE 3

1. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE CONTRACTOR SHALL INVITE 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 SOOK ON THE SITE AT LOCATIONS 37-42 AND 49-50 AS INDICATED ON THE ATTACHED PLAN. SILT SOOK IS TO BE INSTALLED ALONG THE CONTOUR WHERE POSSIBLE, AT A LEVEL GRADE. THE SILT SOOK 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 SOOK SHALL BE REMOVED IN ORDER TO RESTORE THE SEDIMENT STORAGE CAPACITY OF THESE AREAS. IN THE CASE OF A FAILURE OF THE SILT SOOK DUE TO HIGH FLOWS, A NEW SECTION OF SILT SOOK SHALL BE INSTALLED ACROSS THE FAILED PORTION OF THE SILT SOOK. AT NO POINT SHALL UN-STABILIZED AREA DRAIN OFFSITE UNCONTROLLED. THE SILT SOOK 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 BATTLE(S), AND SKIMMER WITHIN THE SEDIMENT BASIN. PLEASE REFER TO THE E&S SHEETS FOR ADDITIONAL DETAIL. A LICENSED PROFESSIONAL OR DESIGNEE 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&SPC 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 SOOK 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. 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.

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 SOOK 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 DESIGNEE 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 INVITE 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 SOOK ON THE SITE AT LOCATIONS 31-37 AND 50-56 AS INDICATED ON THE ATTACHED PLAN. SILT SOOK IS TO BE INSTALLED ALONG THE CONTOUR WHERE POSSIBLE, AT A LEVEL GRADE. THE SILT SOOK 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 SOOK SHALL BE REMOVED IN ORDER TO RESTORE THE SEDIMENT STORAGE CAPACITY OF THESE AREAS. IN THE CASE OF A FAILURE OF THE SILT SOOK DUE TO HIGH FLOWS, A NEW SECTION OF SILT SOOK SHALL BE INSTALLED ACROSS THE FAILED PORTION OF THE SILT SOOK. AT NO POINT SHALL UN-STABILIZED AREA DRAIN OFFSITE UNCONTROLLED. THE SILT SOOK 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 BATTLE(S), AND SKIMMER WITHIN THE SEDIMENT BASIN. PLEASE REFER TO THE E&S SHEETS FOR ADDITIONAL DETAIL. A LICENSED PROFESSIONAL OR DESIGNEE 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&SPC 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 SOOK 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 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.

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 SOOK 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 DESIGNEE 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 INVITE 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.). 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 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 SOOK ON THE SITE AT LOCATIONS 44-48 AS INDICATED ON THE ATTACHED PLAN. SILT SOOK IS TO BE INSTALLED ALONG THE CONTOUR WHERE POSSIBLE, AT A LEVEL GRADE. THE SILT SOOK 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 SOOK SHALL BE REMOVED IN ORDER TO RESTORE THE SEDIMENT STORAGE CAPACITY OF THESE AREAS. IN THE CASE OF A FAILURE OF THE SILT SOOK DUE TO HIGH FLOWS, A NEW SECTION OF SILT SOOK SHALL BE INSTALLED ACROSS THE FAILED PORTION OF THE SILT SOOK. AT NO POINT SHALL UN-STABILIZED AREA DRAIN OFFSITE UNCONTROLLED. THE SILT SOOK 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 JAY 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 BATTLE(S), AND SKIMMER WITHIN THE SEDIMENT BASIN. PLEASE REFER TO THE E&S SHEETS FOR ADDITIONAL DETAIL. A LICENSED PROFESSIONAL OR DESIGNEE 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&SPC 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 SOOK 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. 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.

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.

21. 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 SOOK 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 DESIGNEE SHALL BE PRESENT ONSITE DURING INSTALLATION OF THE UNDERDRAIN SYSTEM, ENGINEERED SOILS, AND FINAL GRADING/SEEDING OF INFILTRATION BASIN G.

22. 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.

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

1. 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.

2. 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."

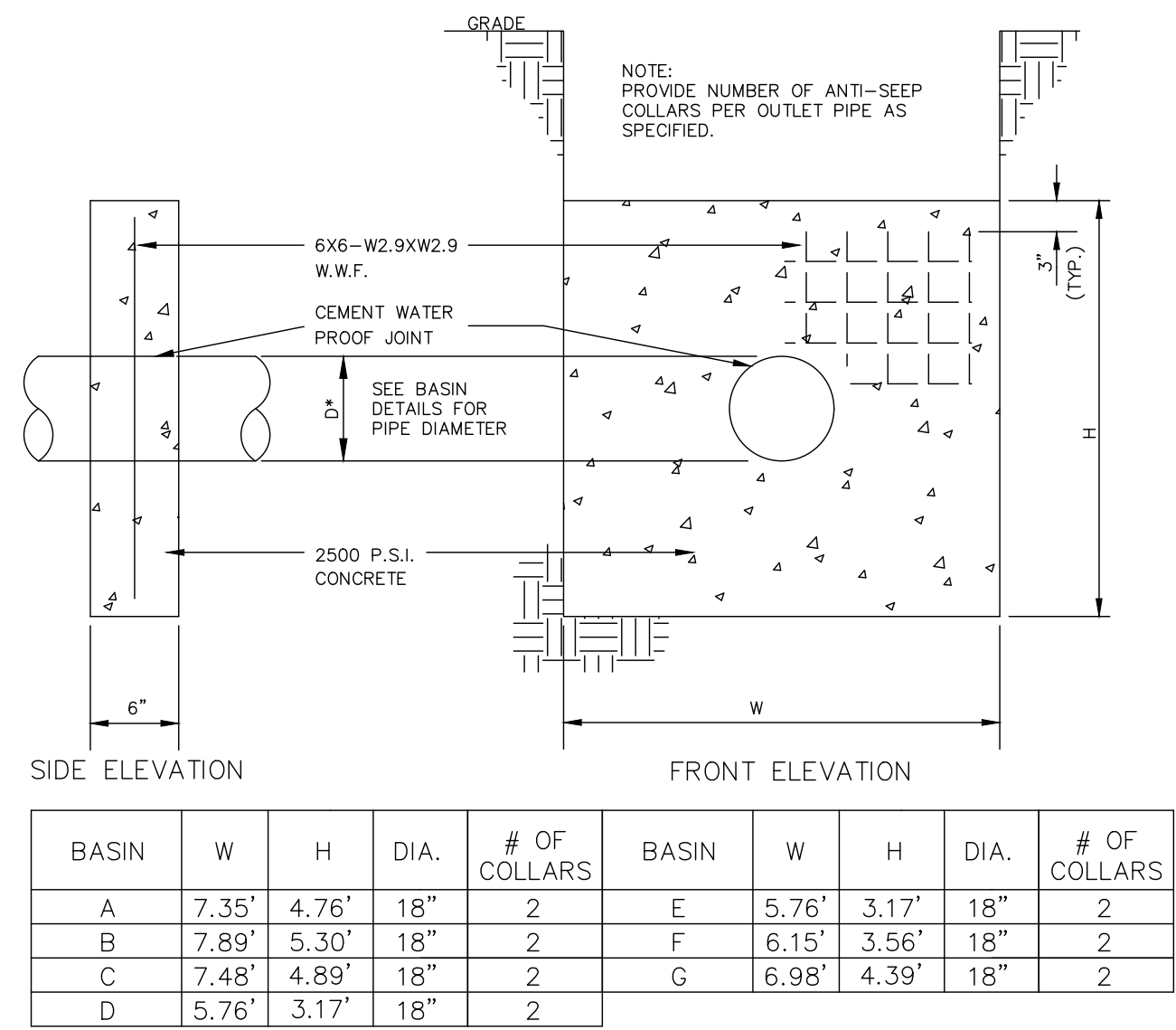
3. IF SOIL IS TAKEN TO OR BORROWED FROM ANOTHER CONSTRUCTION SITE, SAID SITE MUST HAVE AN APPROVED E&SPC PLAN. SEE THE "SOIL LIMITATIONS AND RESOLUTIONS" SECTION OF THIS E&S PLAN FOR FURTHER INFORMATION.

4. 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.

5. 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).

6. 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.

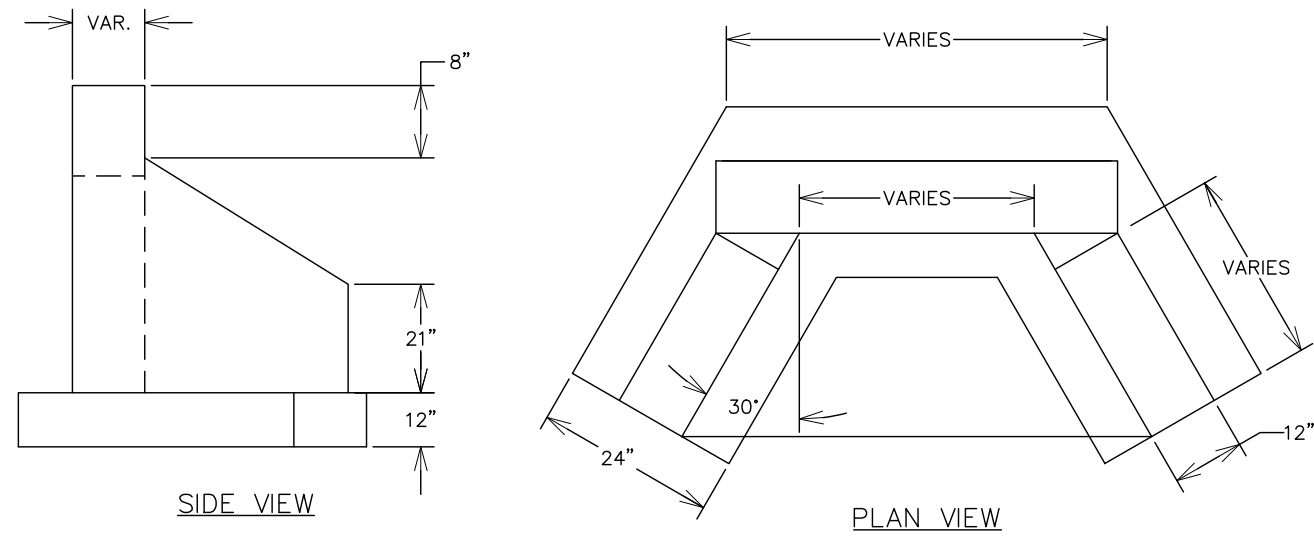
7. PER NPDES REQUIREMENTS, "WITHIN 30 DAYS AFTER THE COMPLETION OF EARTH DISTURBANCE ACTIVITIES AUTHORIZED BY THIS PERMIT, INCLUDING THE PERMANENT STABILIZATION OF THE SITE AND PROPER INSTALLATION OF PCSM BMP'S IN ACCORDANCE WITH THE APPROVED PCSM PLAN, OR UPON SUBMISSION OF THE NOT IF SOONER, THE PERMITTEE SHALL FILE WITH THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT A STATEMENT SIGNED BY A LICENSED PROFESSIONAL AND BY THE PERMITTEE CERTIFYING THAT WORK HAS



CONCRETE ANTI-SEEP COLLAR

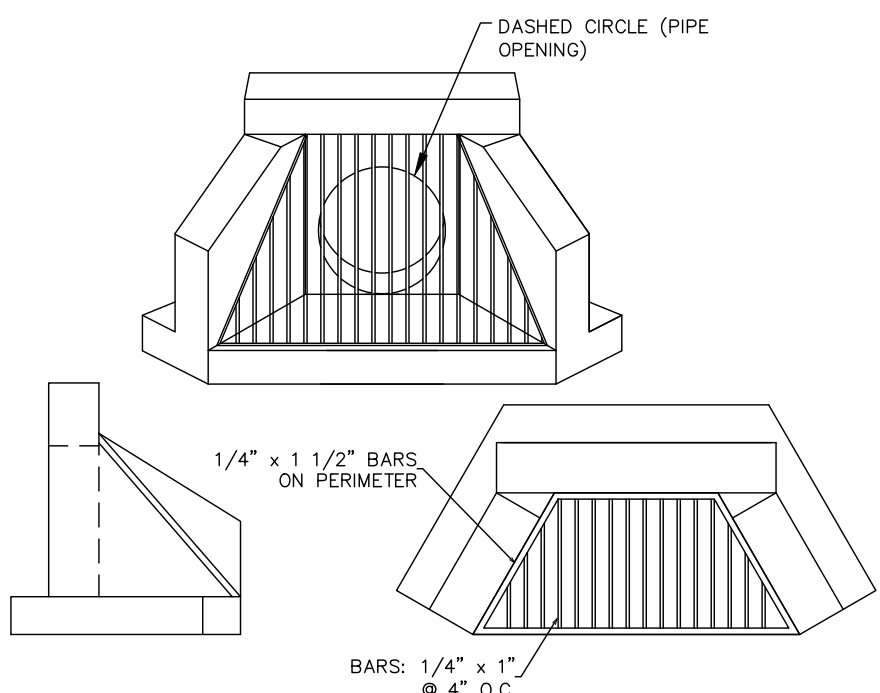
NO SCALE

*ALL DIMENSIONS THAT ARE IDENTIFIED AS VARIES ARE CUSTOM BASED ON THE SIZE OF THE PIPE. SEE PENNDOT PUBLICATION 72, RC-31M FOR EXACT DIMENSIONS.



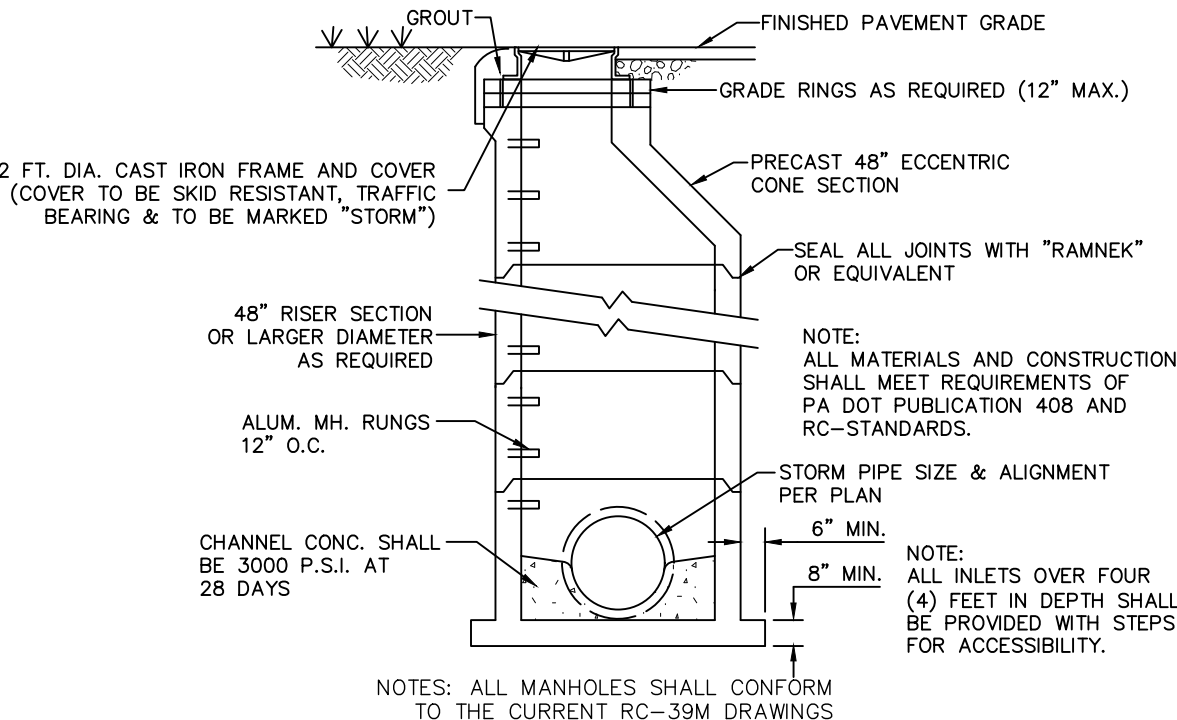
TYPE DW ENDWALL DETAIL

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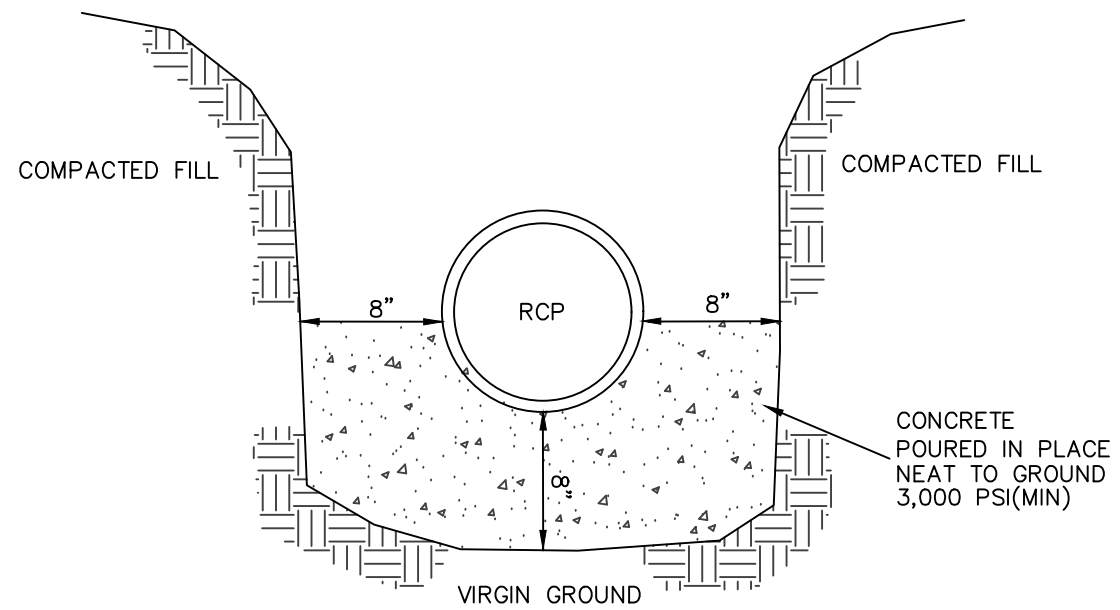
TYPE DW ENDWALL WITH TRASH RACK DETAIL

NO SCALE



STORMWATER MANHOLE CROSS SECTION

NO SCALE

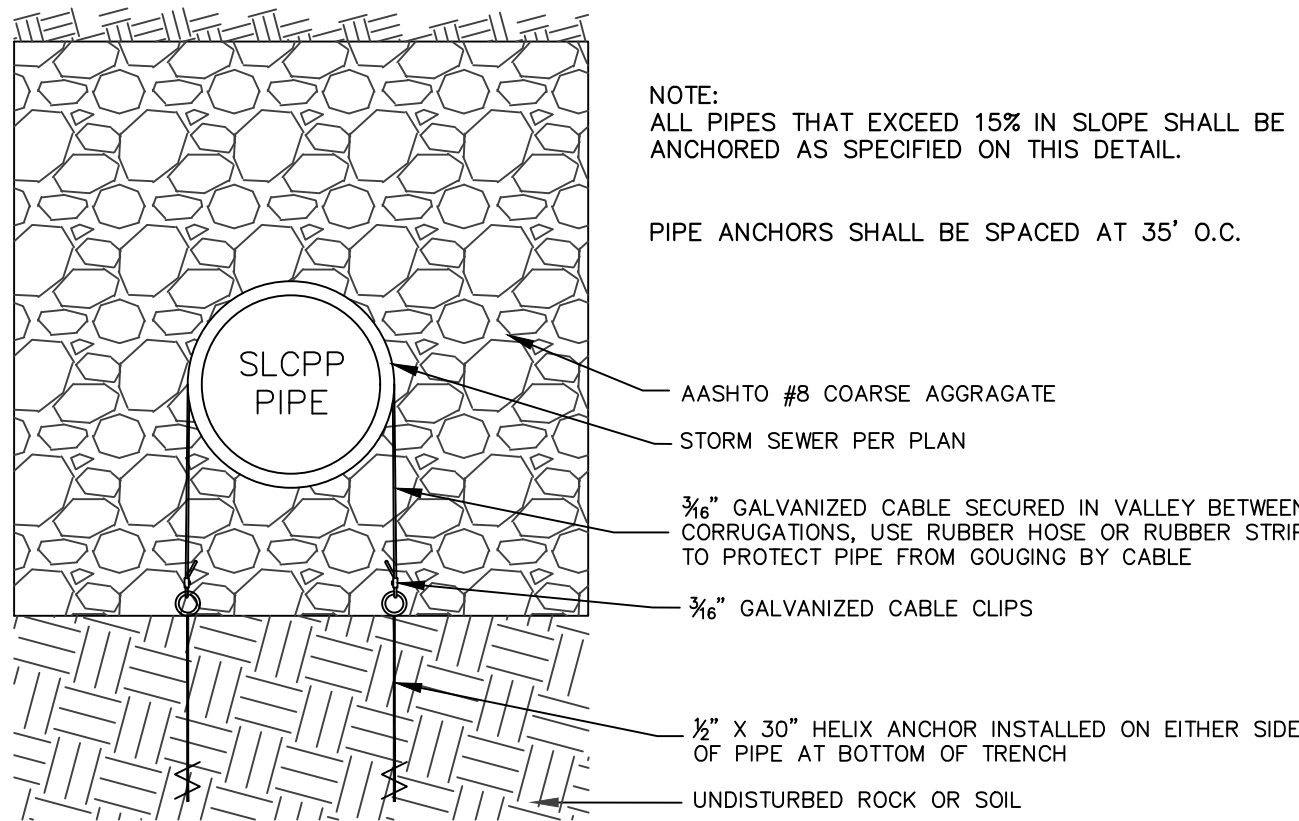


NOTES:

1. A CONCRETE CRADLE MAY BE USED IN CONJUNCTION WITH ANTI-SEEP COLLARS AND/OR FILTER DIAPHRAGM.
2. ANTI-SEEP COLLAR NUMBER, SIZE AND SPACING SHALL BE AS SHOWN ELSEWHERE IN PLAN.
3. THE CONCRETE CRADLE SHALL RUN ALONG THE ENTIRE LENGTH OF THE PIPE.

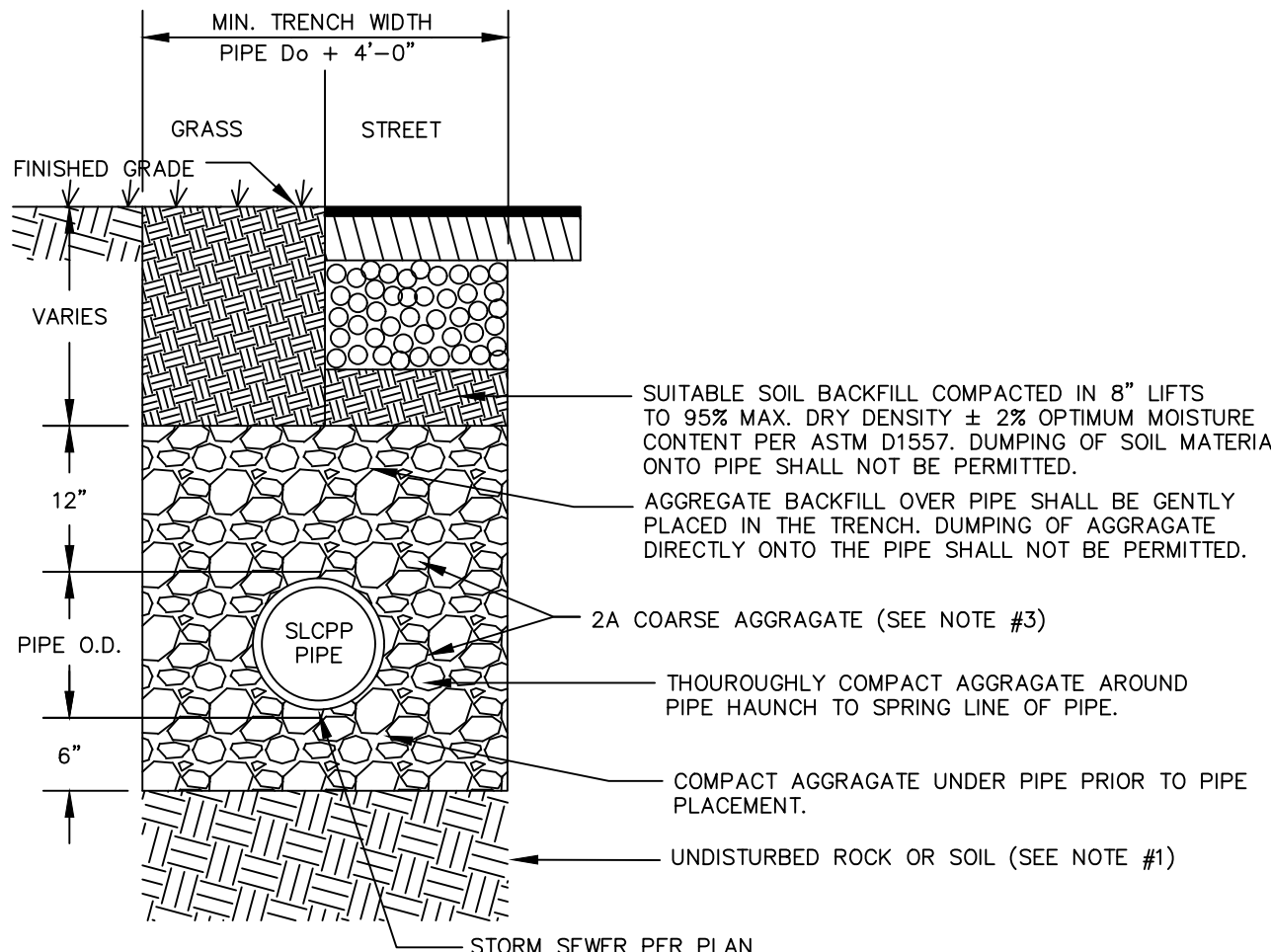
CONCRETE CRADLE DETAIL

NO SCALE



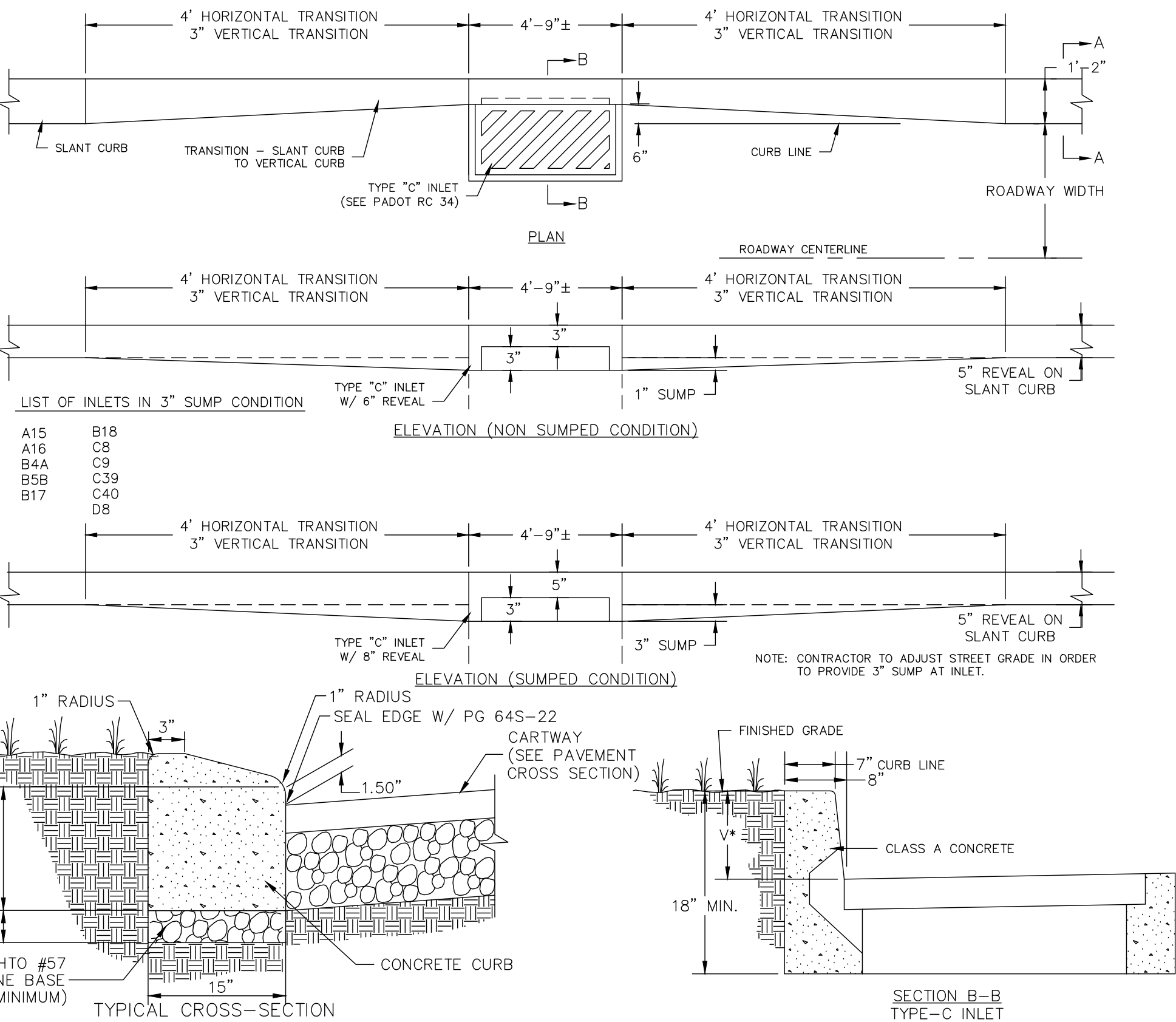
TYPICAL STEEP SLOPE PIPE ANCHOR ASSEMBLY

NO SCALE



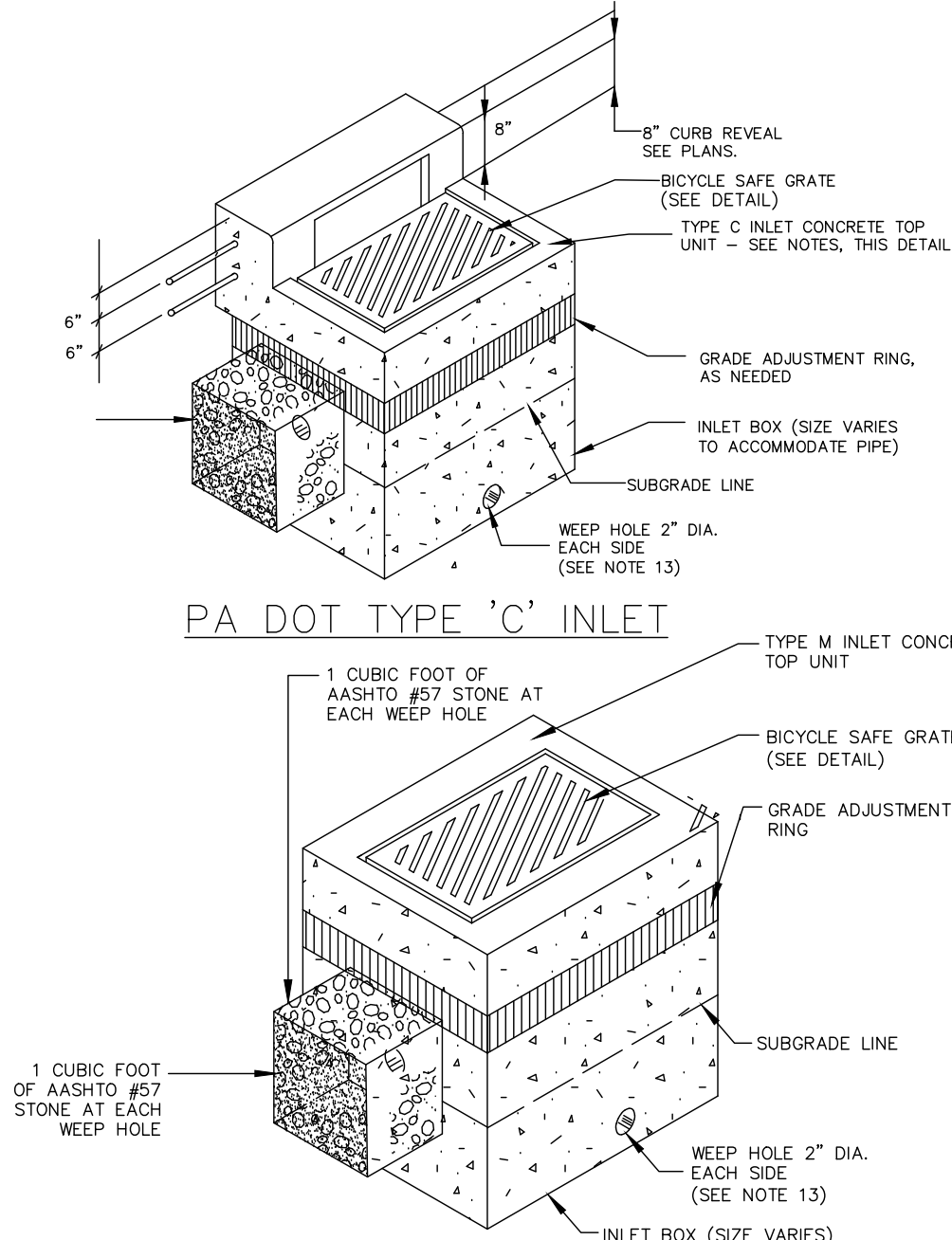
TYPICAL TRENCH DETAIL FOR SLCPP INSTALLATION

NO SCALE



SLANT CURB TO TYPE C INLET CURB TRANSITION DETAIL

NO SCALE

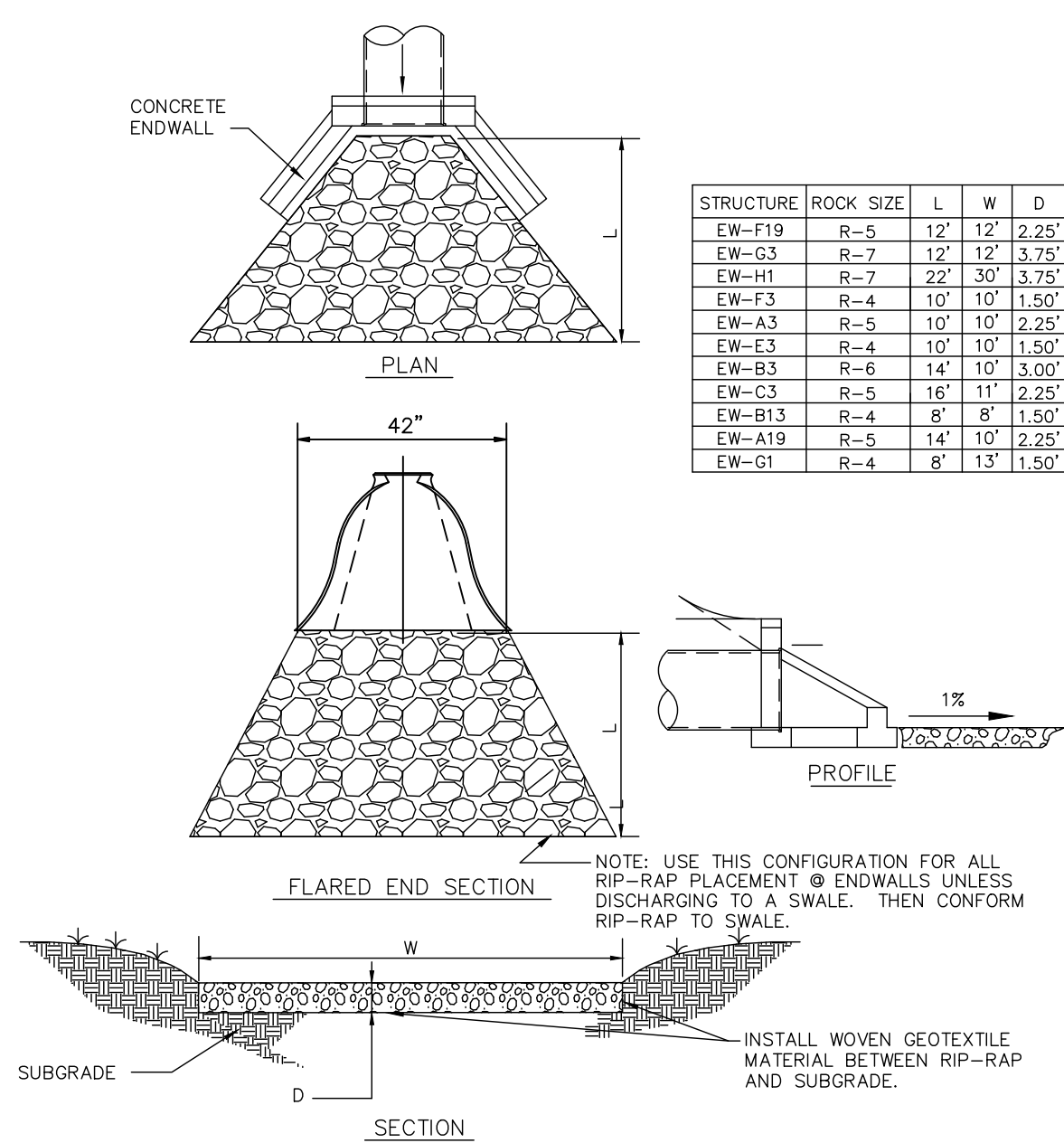


PADOT STORMWATER INLETS (TYPE C & M)

NO SCALE

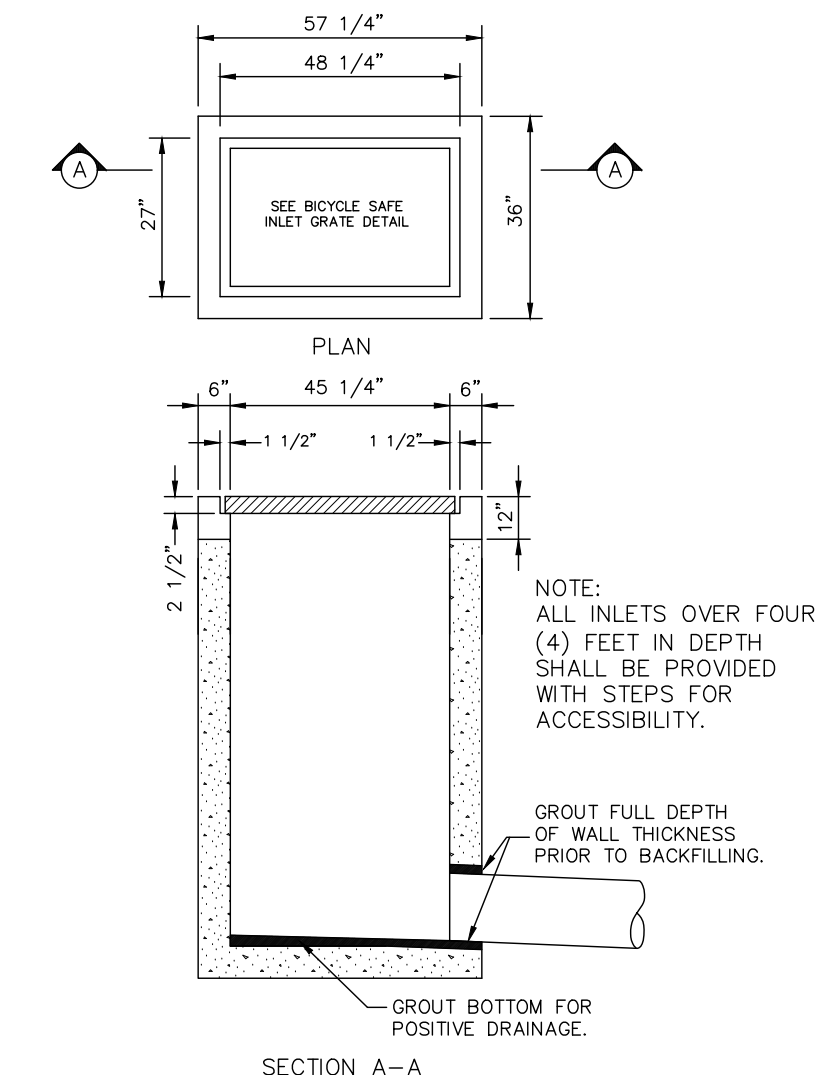
INLET NOTES:

1. 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.
2. 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.
3. 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.
4. THE SELECTION OF COMPONENTS TO ACHIEVE A SPECIFIED INLET TYPE IS THE CONTRACTOR'S RESPONSIBILITY.
5. PIPES SHALL BE LOCATED AS REQUIRED.
6. ALL INLETS OVER FOUR (4) FEET IN DEPTH SHALL BE PROVIDED WITH STEPS FOR ACCESSIBILITY.
7. GRADE ADJUSTMENT RINGS MAY BE OF MASONRY OR PRECAST CONCRETE CONSTRUCTION, AS APPROVED.
8. INLET BOX SHALL BE PRECAST CONCRETE.
9. REFER TO PA DOT BUREAU OF DESIGN STANDARDS RC-45M.
10. 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.
11. ALL DRAINAGE STRUCTURES SHALL HAVE POURED-IN-PLACE CONCRETE CHANNEL BOTTOM, UNLESS OTHERWISE NOTED.
12. ALL STORMWATER INLET BOXES, CONCRETE TOP UNITS, AND INLET GRATES AND FRAMES SHALL CONFORM TO CURRENT PENNDOT RC-45M STANDARDS.
13. ALL INLETS SHALL BE CONSTRUCTED WITH CONCRETE FLOW CHANNELS CAST IN-PLACE IN THE BOTTOM OF EACH INLET, EXCEPT THE LAS TWO INLETS BEFORE A STORM SEWER OUTFALL SHALL BE CONSTRUCTED WITH A MINIMUM 12" SUMP TO CATCH DEBRIS. INLET SUMPS SHALL HAVE WEEPHOLES.



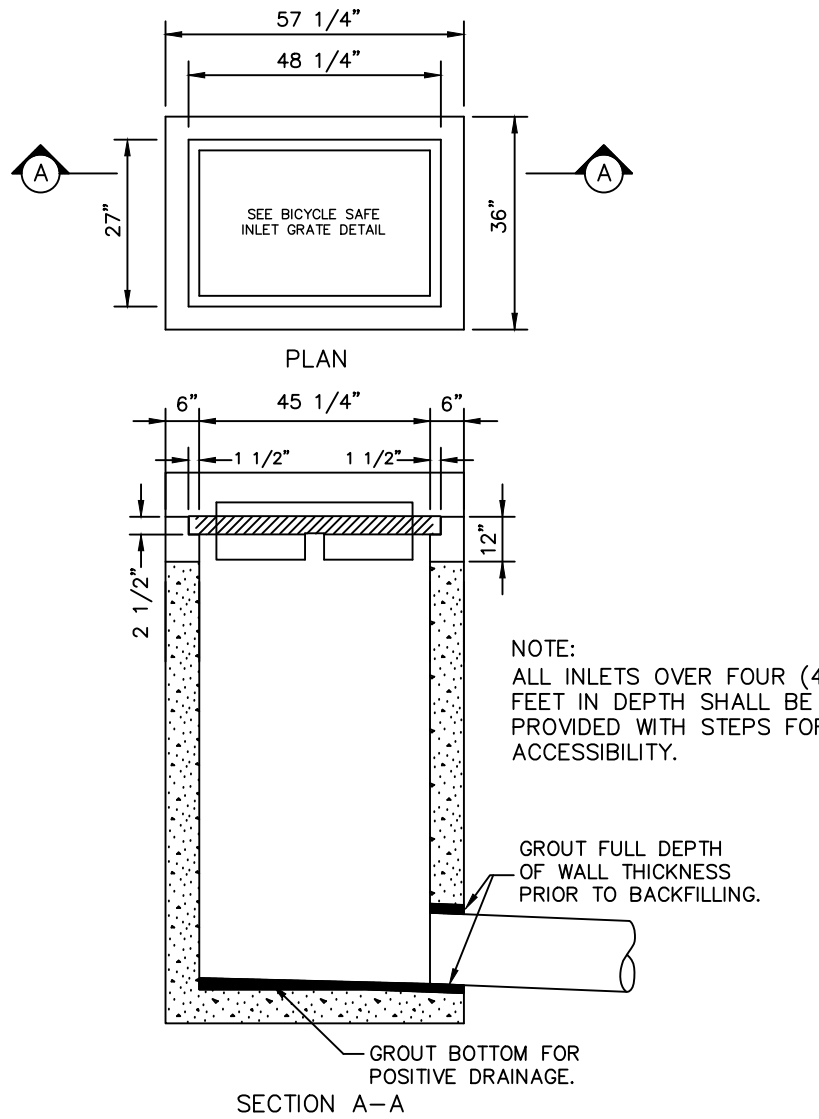
FLARED END SECTION/ENDWALL RIP RAP DETAIL

NO SCALE



TYPE M INLET DETAIL (RC-45M)

NO SCALE



TYPE C INLET DETAIL (RC-45M)

NO SCALE

POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS

FINAL - PHASE 1

SUBDIVISION & LAND DEVELOPMENT PLAN

THE ESTATES AT HEARTSHIDE

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

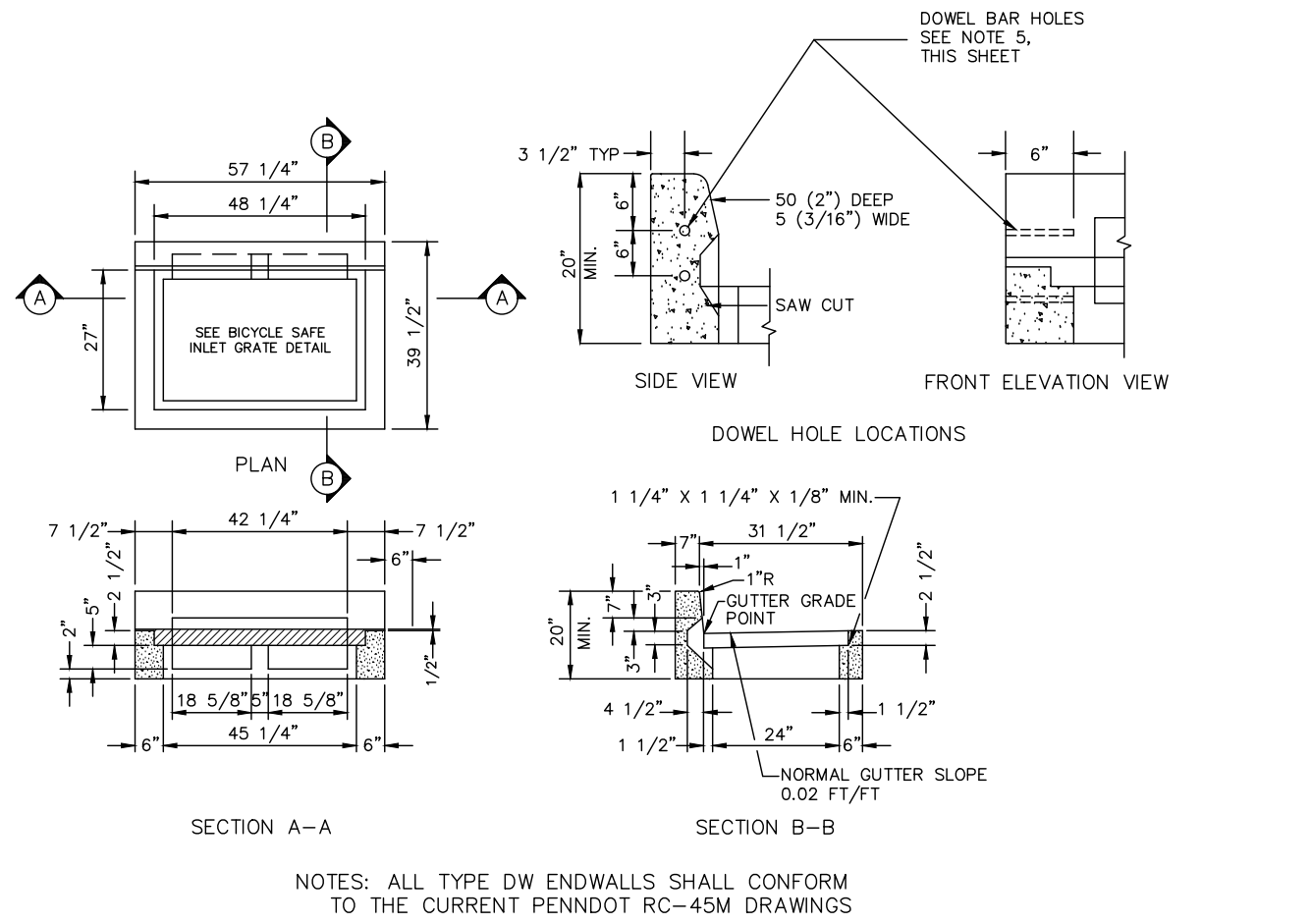
DATE: 6/19/24

SCALE: AS NOTED

PROJECT #784-24-001

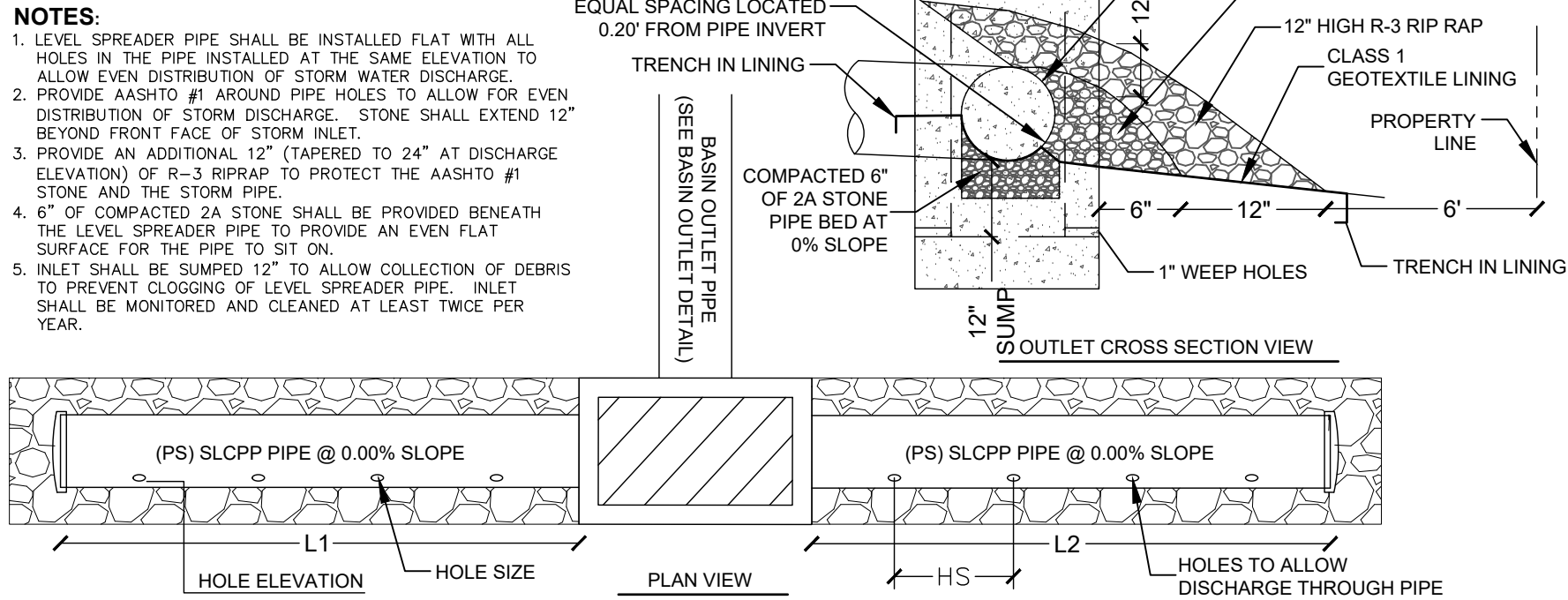
15

15 OF 33 SHEETS



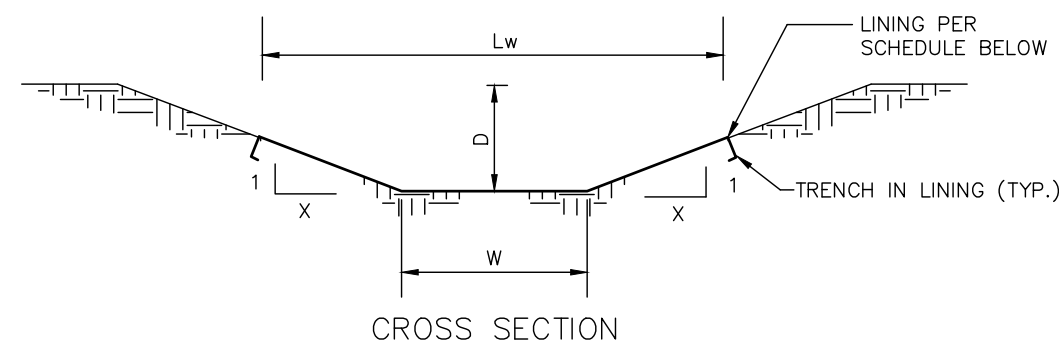
PENNDOT TYPE "C" INLET TOP

NO SCALE



LEVEL SPREADER DETAIL

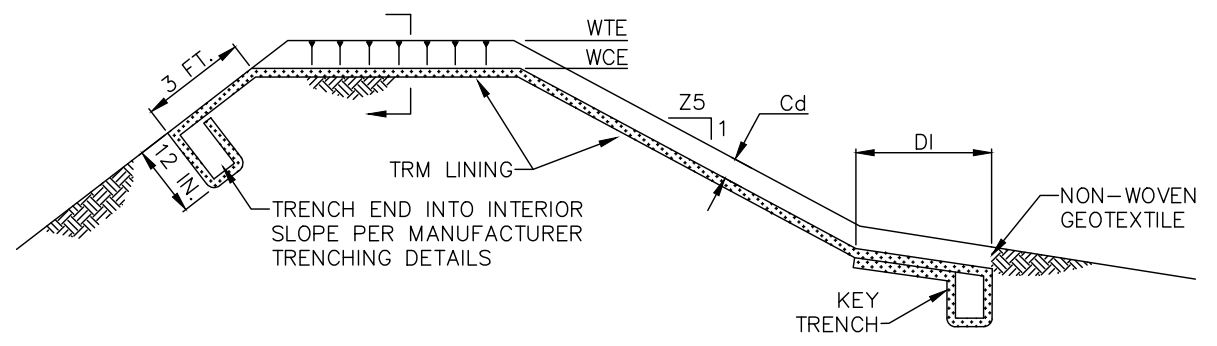
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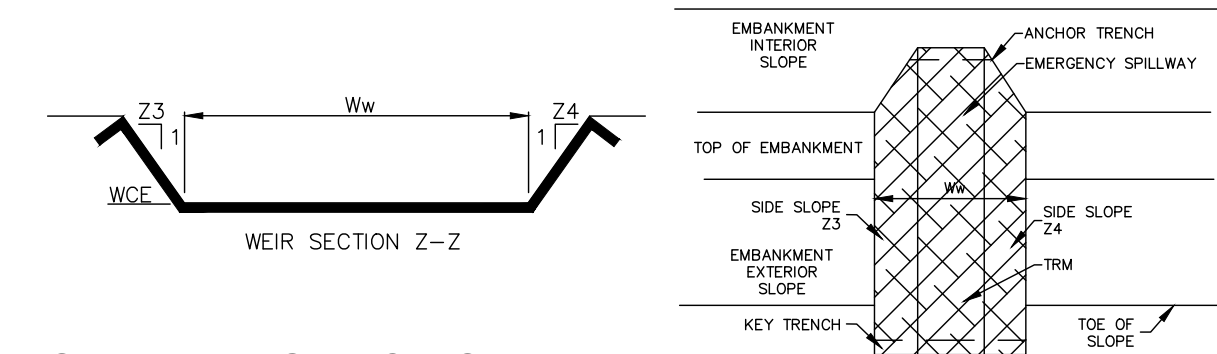
SWALE NO.	WIDTH (W)	DEPTH (D)	SIDE SLOPE (X)	MAX. SLOPE	LINING WIDTH (Lw)	LINING	TEMPORARY LINING	STAPLE PATTERN
1	1.5'	1'	4	17%	9.5'	GRASS	N.A.G. C-350	E
2	1.5'	1'	15	8%	31.5'	GRASS	N.A.G. S-75	D
3	1.5'	1'	12.5	5%	26.5'	GRASS	N.A.G. S-75	D
4	1.5'	1'	9	7%	19.5'	GRASS	N.A.G. P-300	E
5	1.5'	1'	6.5	10%	14.5'	GRASS	N.A.G. P-300	E
6	1'	1'	9	6%	19'	GRASS	N.A.G. S-75	D
7	1'	1'	10	12%	21'	GRASS	N.A.G. P-300	E
8	2'	1'	7.5	6%	17'	GRASS	N.A.G. P-300	E
9	1.5'	1'	7	10%	15.5'	GRASS	N.A.G. P-300	E
10	2'	1'	8	6%	18'	GRASS	N.A.G. P-300	E
11A	1.5'	1'	3	33%	16.5'	RIPRAP	R-5 RIPRAP	-
11B	1.5'	1'	7.5	10%	16.5'	GRASS	N.A.G. P-300	E
12	1'	1'	15	4%	31'	GRASS	N.A.G. S-75	D
13	1'	1'	3	6%	7'	GRASS	N.A.G. S-75	D
14A	2'	1'	3	33%	8'	RIPRAP	R-5 RIPRAP	-
14B	2'	1'	3	4%	8'	RIPRAP	N.A.G. S-75	D
15	1.5'	1'	6	10%	17.5'	GRASS	N.A.G. P-300	E

STORMWATER SWALE DETAIL

NO SCALE

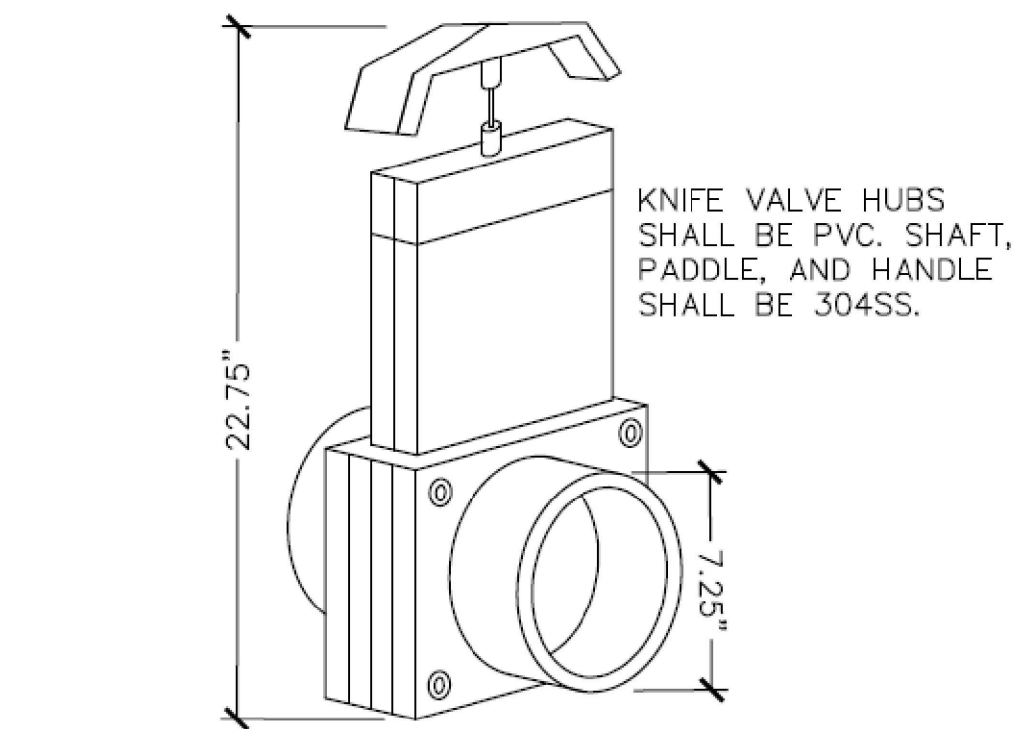


BASIN NO.	WEIR					LINING		CHANNEL		DISSIPATOR			
	Z3 (FT)	Z4 (FT)	TOP ELEV WTE (FT)	CREST ELEV WTE (FT)	WIDTH Ww (FT)	TRM TYPE	PATTERN	Z5 (FT)	DEPTH Cd (FT)	LENGTH D1 (FT)	WIDTH D2 (FT)	RIPRAP SIZE (R--)	RIPRAP THICK. OR1 (IN)
A	3	3	568.25	567.00	425	C350	E	3	1.25	7	N/A	N/A	N/A
B	3	3	591.25	590.00	175	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

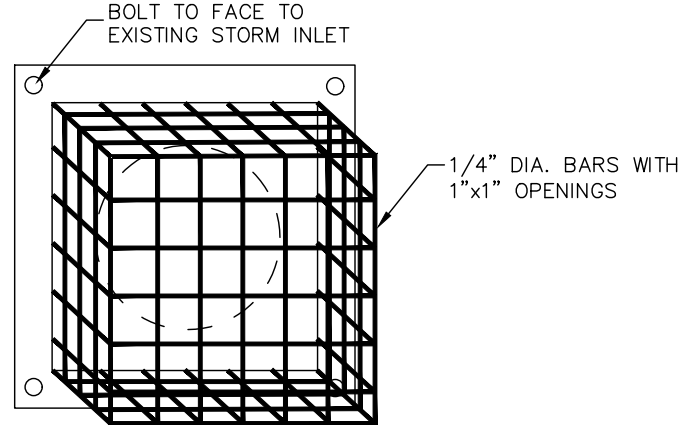
6" PVC KNIFE VALVE DETAIL

NO SCALE

- NOTES:**
- 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 COMESTIC 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



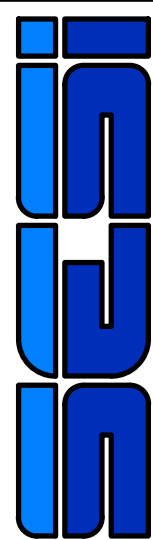
STORM INLET TRASH RACK DETAIL

NO SCALE

POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS

FINAL - PHASE 1
SUBDIVISION & LAND DEVELOPMENT PLAN
THE ESTATES AT HEARTSHIDE

located in
NORTH LEBANON TOWNSHIP
LEBANON County, Pennsylvania



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

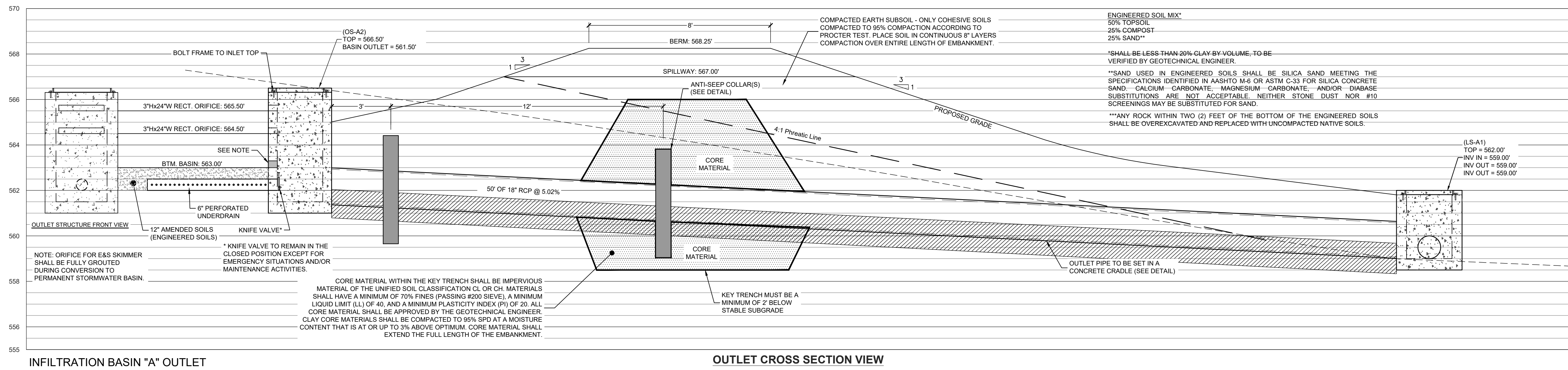
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SCALE: AS NOTED

PROJECT #784-24-001

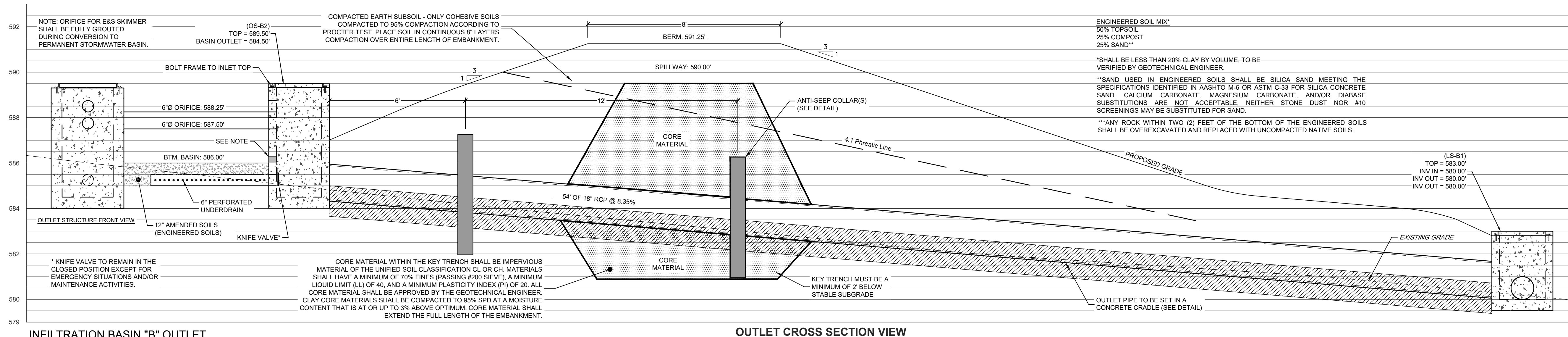
16

16 OF 33 SHEETS



INFILTRATION BASIN "A" OUTLET

SCALE: 1" = 2.5'



INFILTRATION BASIN "B" OUTLET

SCALE: 1" = 2.5'

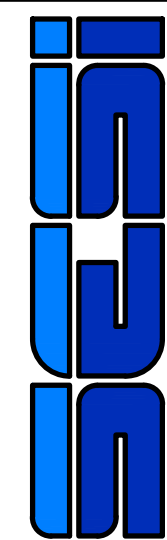
POST CONSTRUCTION STORMWATER MANAGEMENT OUTLET DETAILS

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THE ESTATES AT HEARTHSTONE

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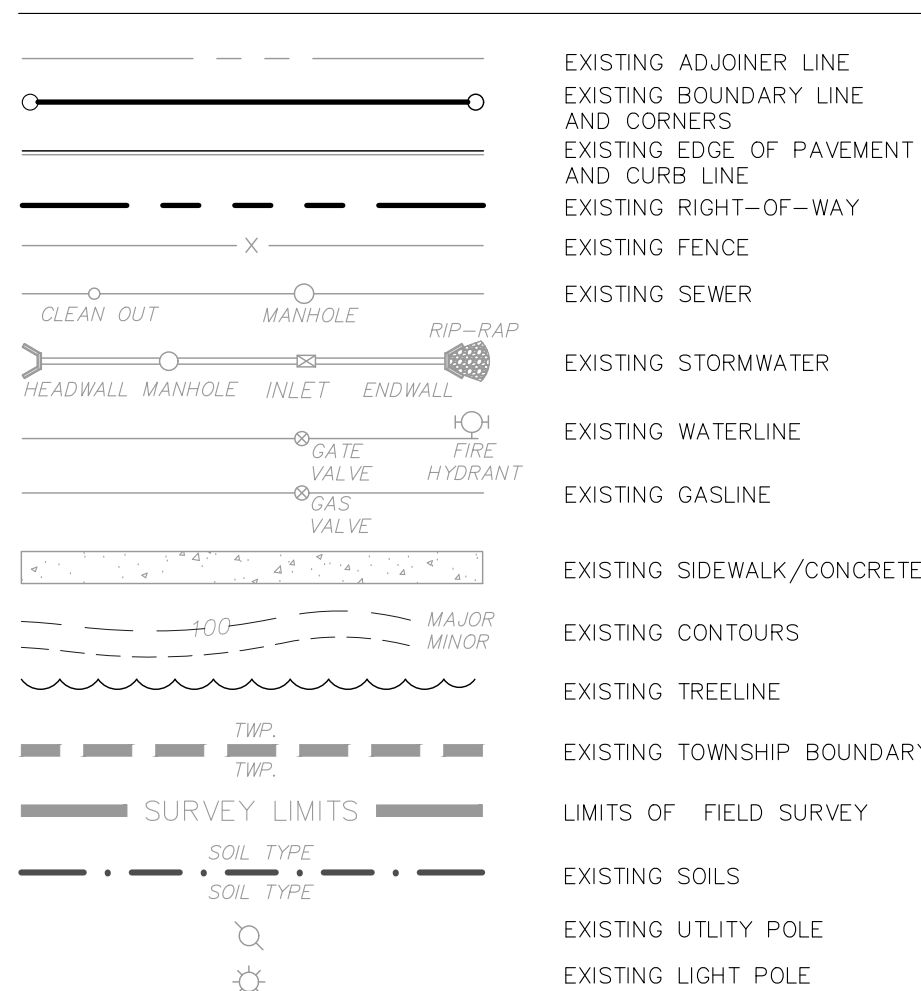
PROJECT #784-24-001

17

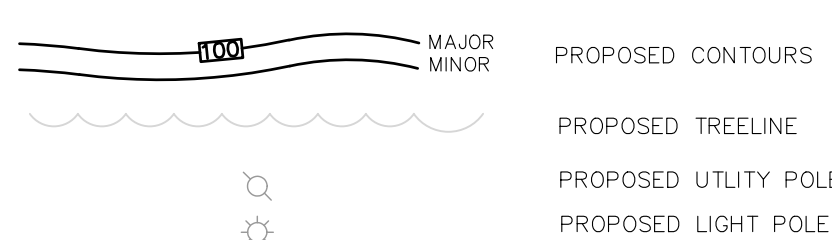
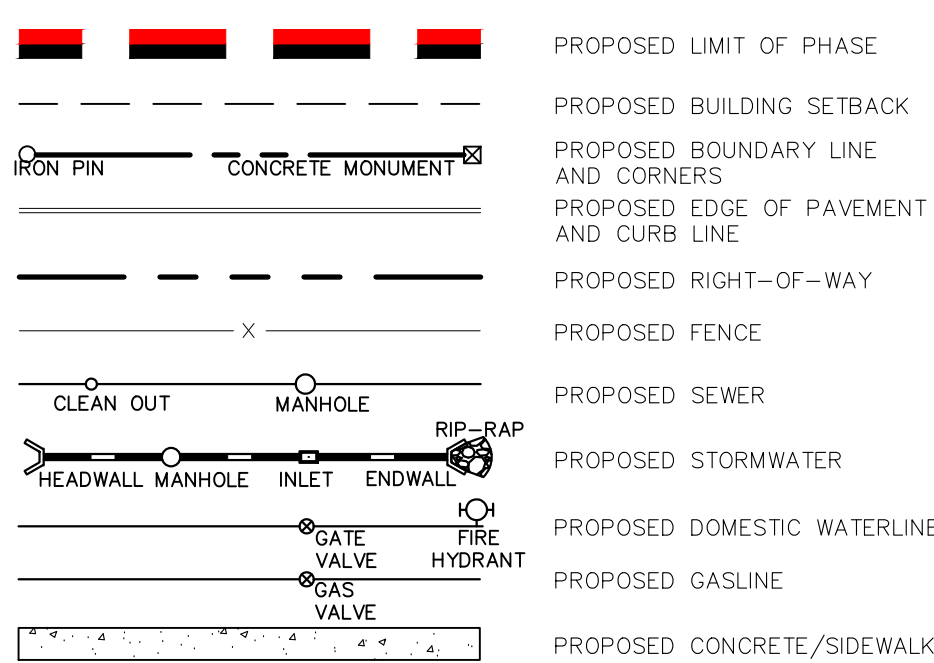
17 OF 33 SHEETS

LEGEND

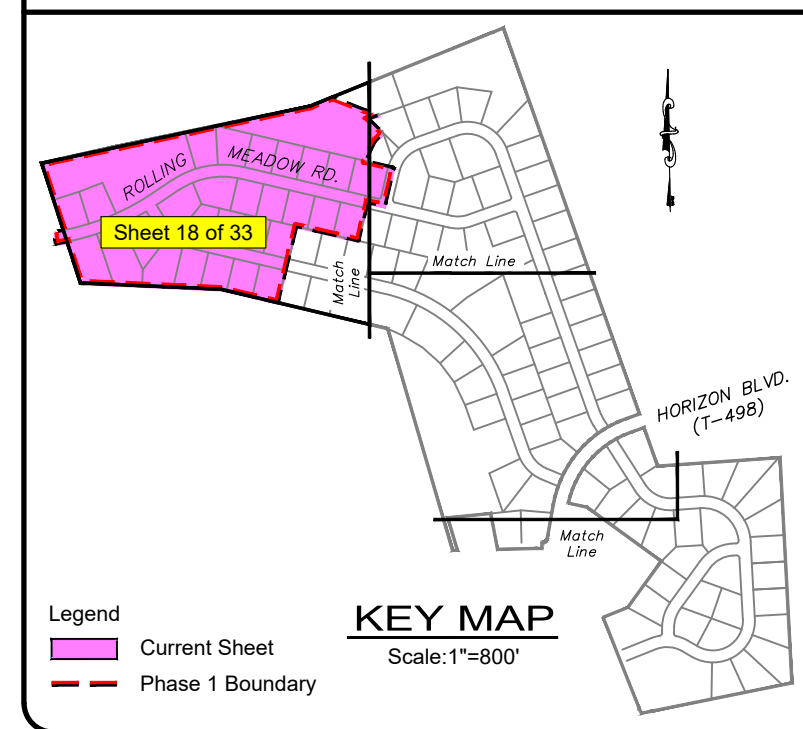
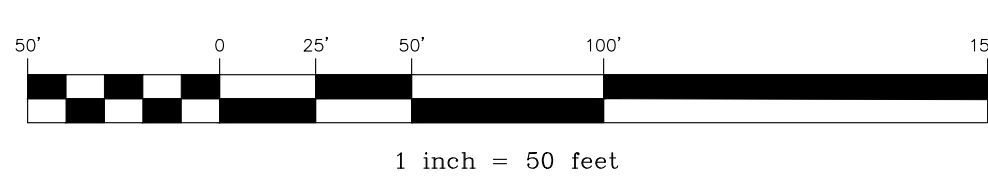
EXISTING FEATURES



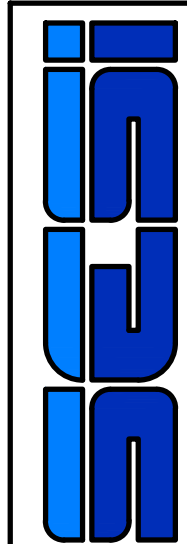
PROPOSED FEATURES



GRAPHIC SCALE



GRADING PLAN
FINAL - PHASE 1
SUBDIVISION & LAND DEVELOPMENT PLAN
THE ESTATES AT HEARTSHIDE

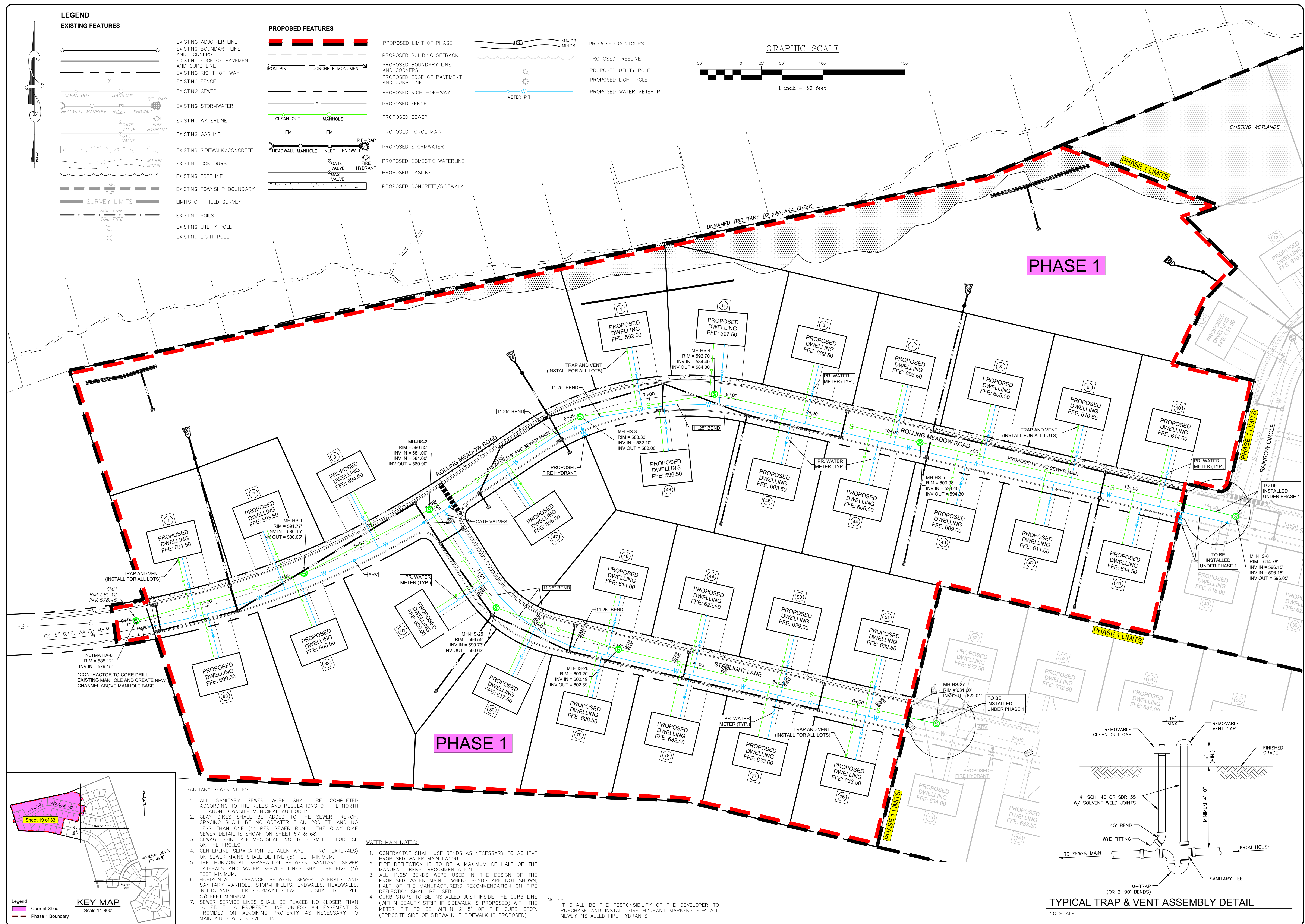


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FIELD CREW: MOD/JEC
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DRAWN: CDS
DESIGN: CDS
CHECKED: SAS
DATE: 6/19/24
SCALE: 1"=50'
PROJECT #784-24-001

18

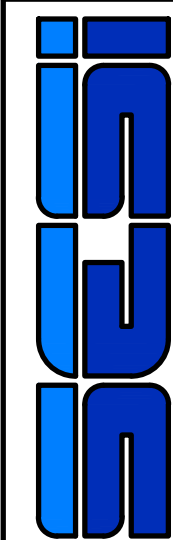
18 OF 33 SHEETS



REVISION	DATE	BY
PER ARRO LETTER DATED 7/3/24	8/12/24	ODS
PER NLMA REVISIONS	8/12/24	ODS
PER LOPD LETTER DATED 7/16/24	8/12/24	ODS
---	---	---
---	---	---
---	---	---

UTILITY PLAN
FINAL - PHASE 1
SUBDIVISION & LAND DEVELOPMENT PLAN
For
THE ESTATES AT HEARTHSIDE

NORTH LEBANON TOWNSHIP
-LEBANON County, Pennsylvania

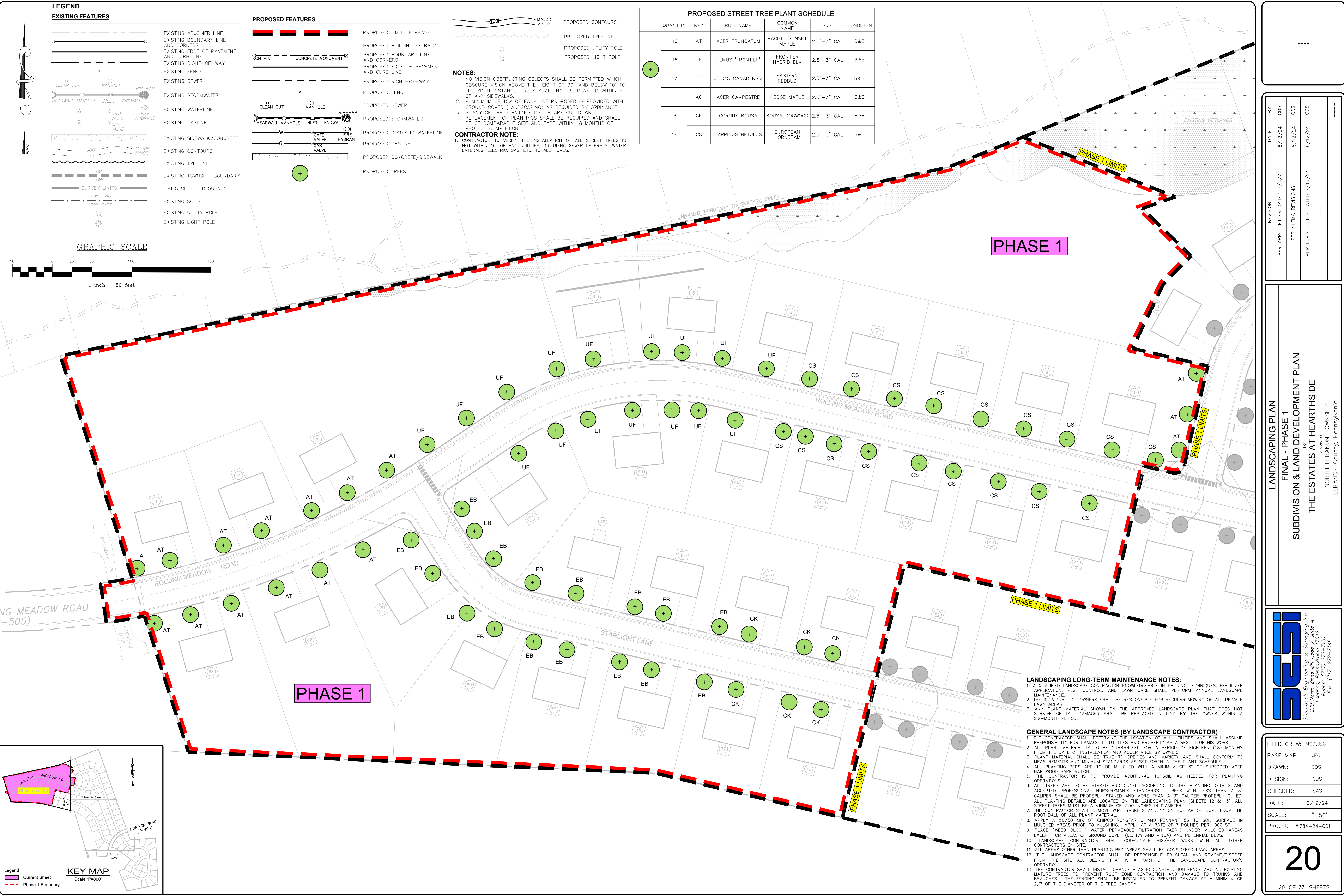


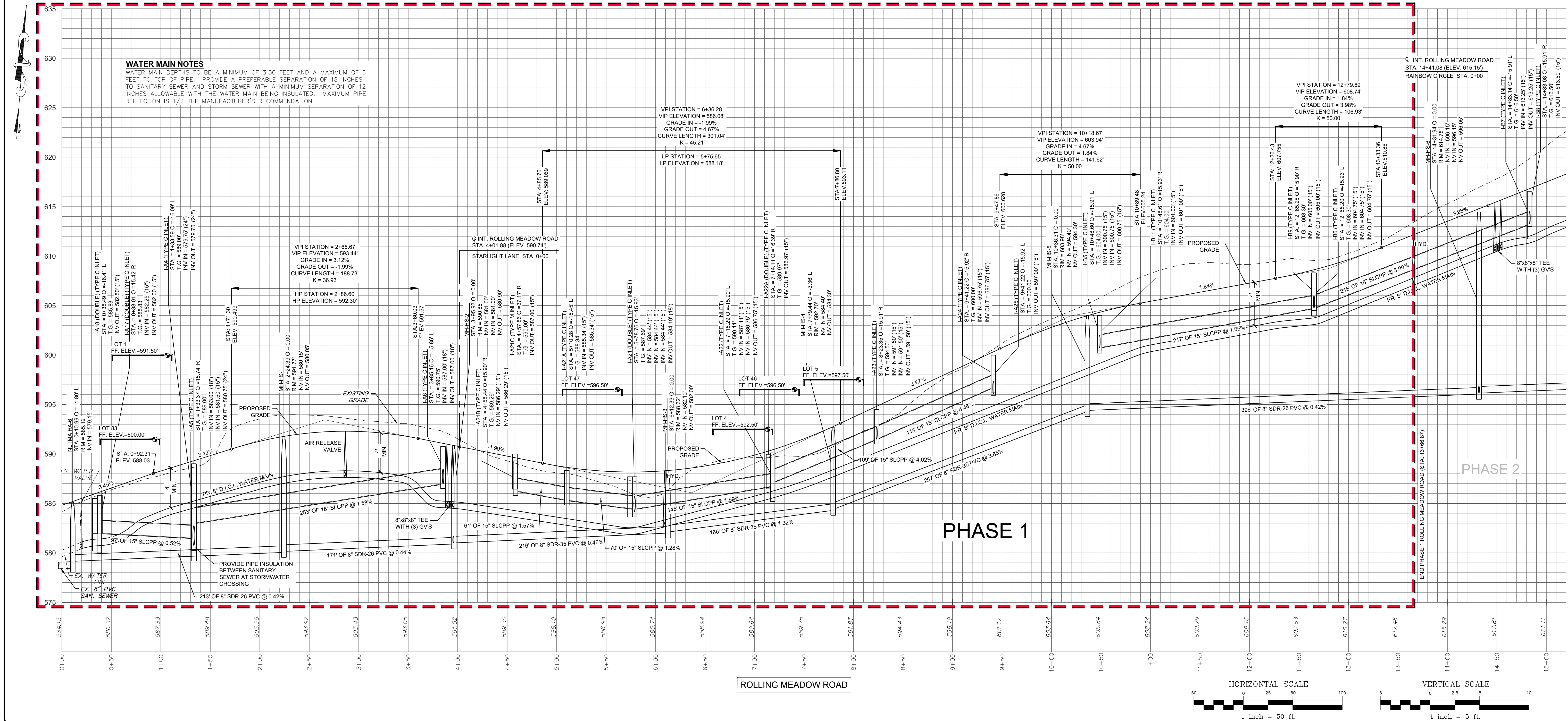
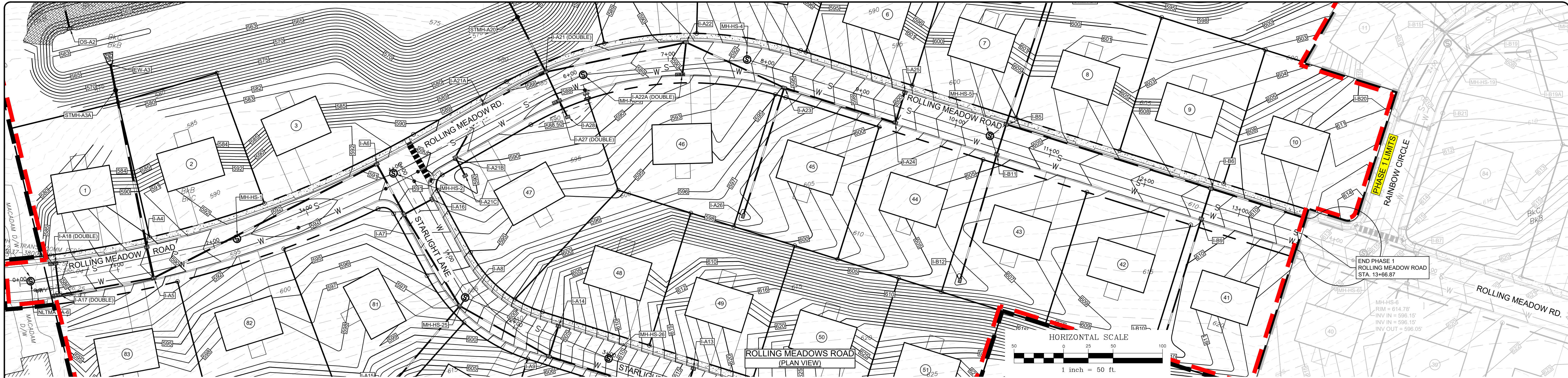
Steckbeck Engineering & Surveying Inc.
279 North Zinns Mill Road / Suite A
Lebanon, Pennsylvania 17042
Phone: (717) 272-7110

FIELD CREW:	MOD,JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	6/19/24
SCALE:	1"=50'
PROJECT #	784-24-001

19

19 OF 33 SHEETS





REVISION	DATE	BY
PER ARRO LETTER DATED 7/3/24	8/12/24	CDS
PER NITMA REVISIONS	8/12/24	CDS
PER LPD LETTER DATED 7/16/24	8/12/24	CDS

PROFILES

FINAL - PHASE 1

SUBDIVISION & LAND DEVELOPMENT PLAN

THE ESTATES AT HEARTSHIDE

located in
NORTH LEBANON TOWNSHIP
LEBANON County, Pennsylvania

FIELD CREW: MOD/JEC

BASE MAP: JEC

DRAWN: CDS

DESIGN: CDS

CHECKED: SAS

DATE: 6/19/24

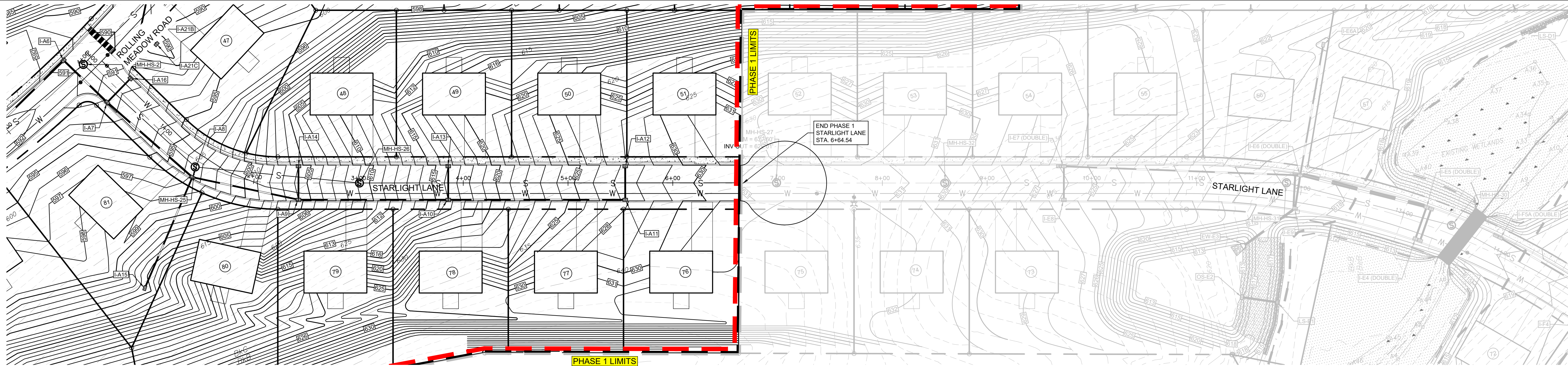
SCALE: 1"=50'

PROJECT #784-24-001

22

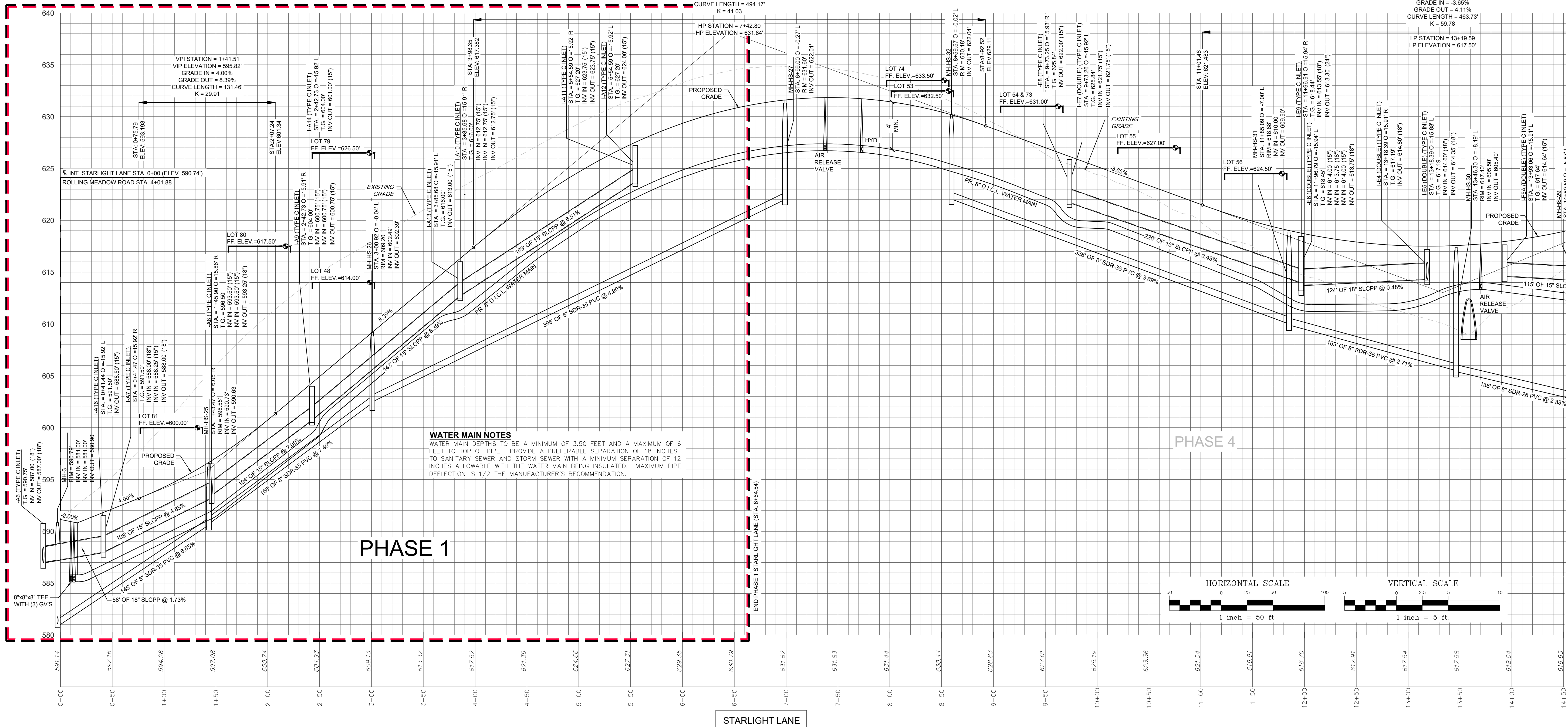
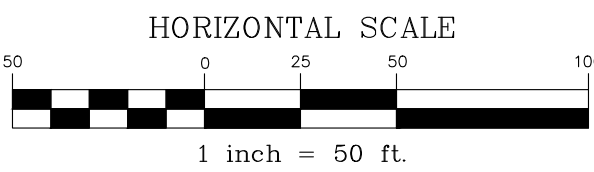
22 OF 33 SHEETS





STARLIGHT LANE
(PLAN VIEW)

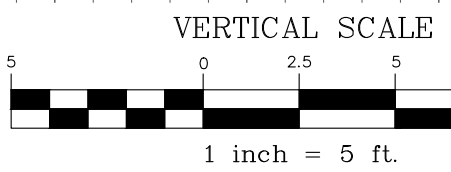
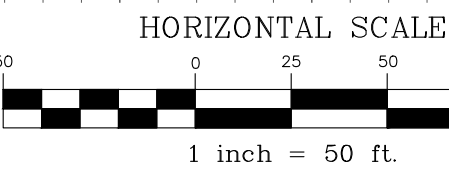
VPI STATION = 6+45.44
VIP ELEVATION = 638.12'
GRADE IN = 8.39%
GRADE OUT = -3.65%
CURVE LENGTH = 494.17'
K = 41.03



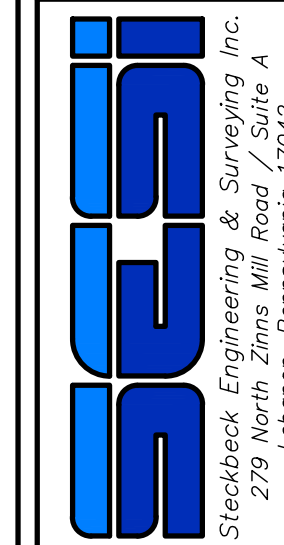
WATER MAIN NOTES

WATER MAIN DEPTHS TO BE A MINIMUM OF 3.50 FEET AND A MAXIMUM OF 6 FEET TO TOP OF PIPE. PROVIDE A PREFERABLE SEPARATION OF 18 INCHES TO SANITARY SEWER AND STORM SEWER WITH A MINIMUM SEPARATION OF 12 INCHES ALLOWABLE WITH THE WATER MAIN BEING INSULATED. MAXIMUM PIPE DEFLECTION IS 1/2 THE MANUFACTURER'S RECOMMENDATION.

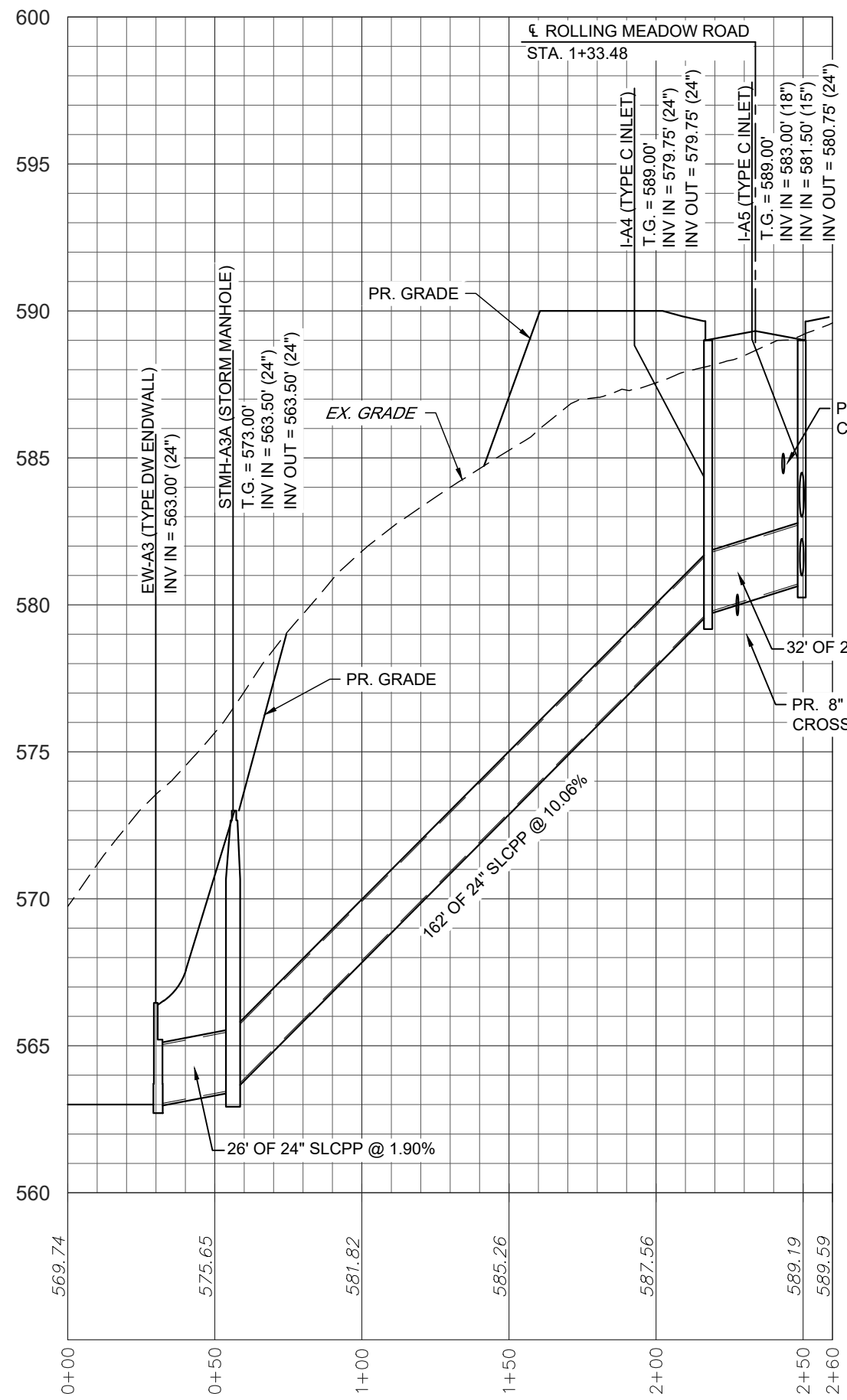
PHASE 4



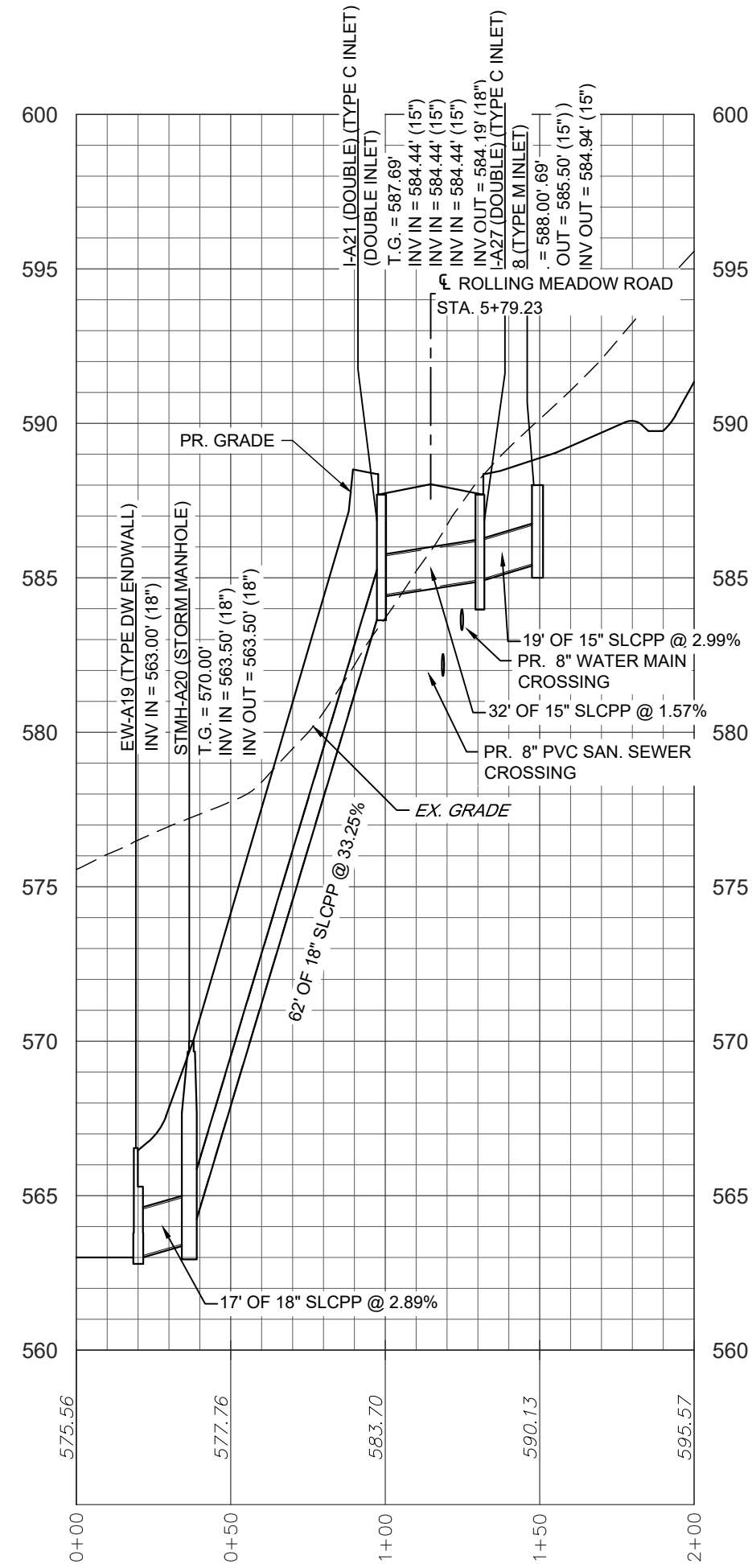
PROFILES
FINAL - PHASE 1
SUBDIVISION & LAND DEVELOPMENT PLAN
THE ESTATES AT HEARTSHIDE



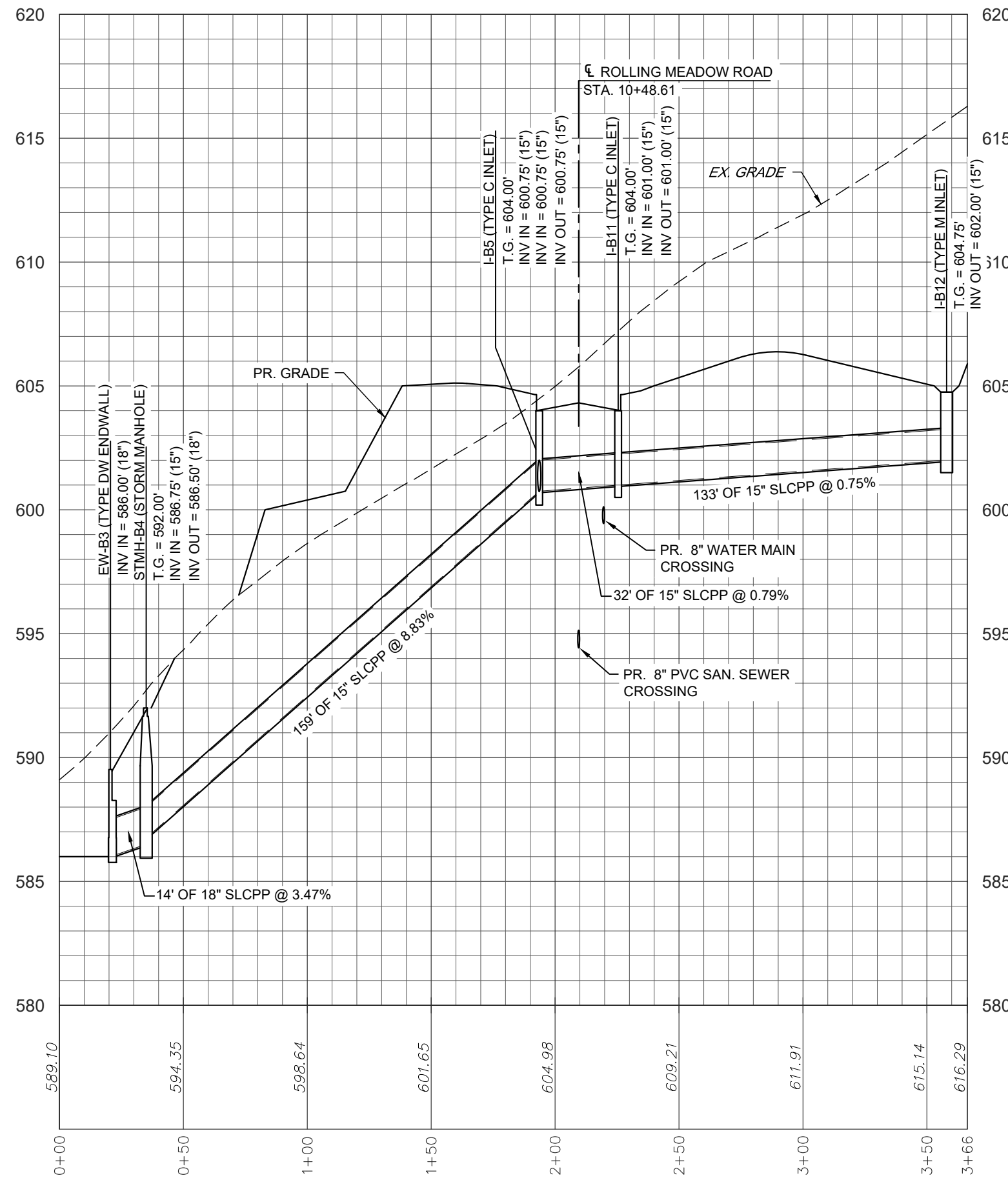
FIELD CREW:	MOD,JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	6/19/24
SCALE:	1"=50'
PROJECT #	784-24-001



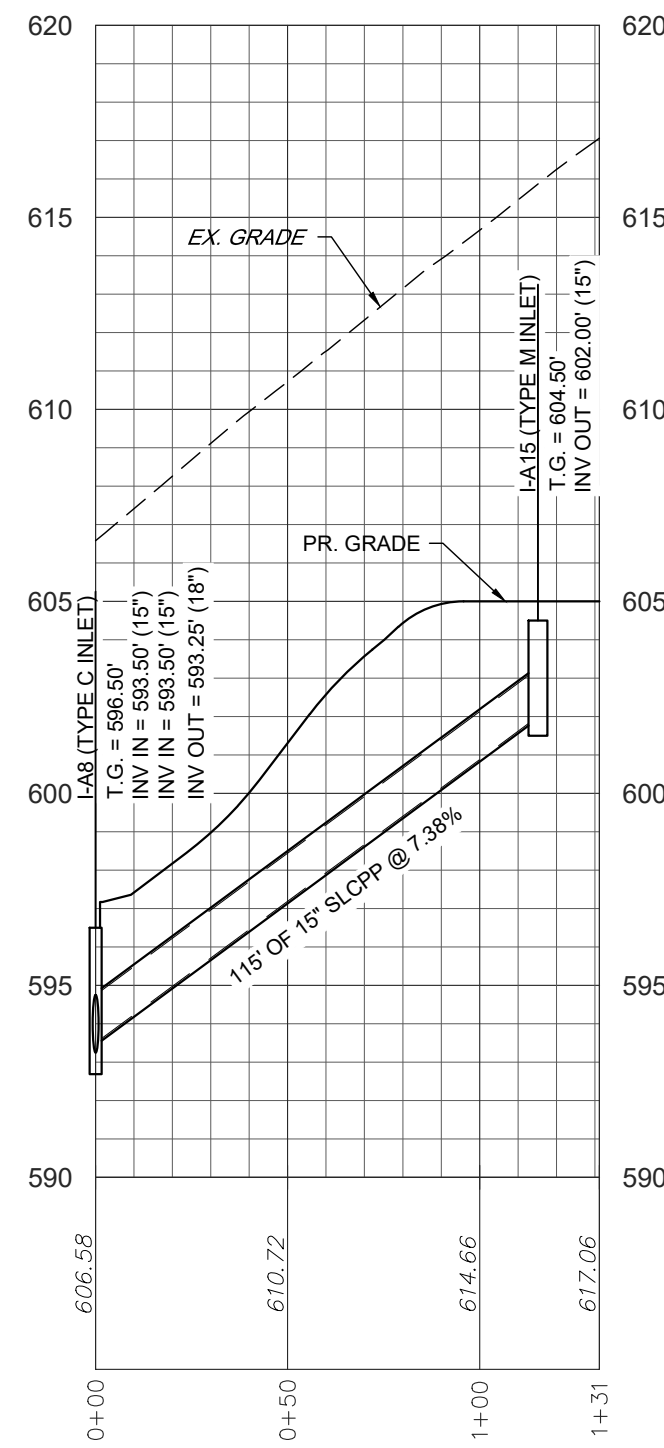
STORMWATER - EW-A3 TO I-A5



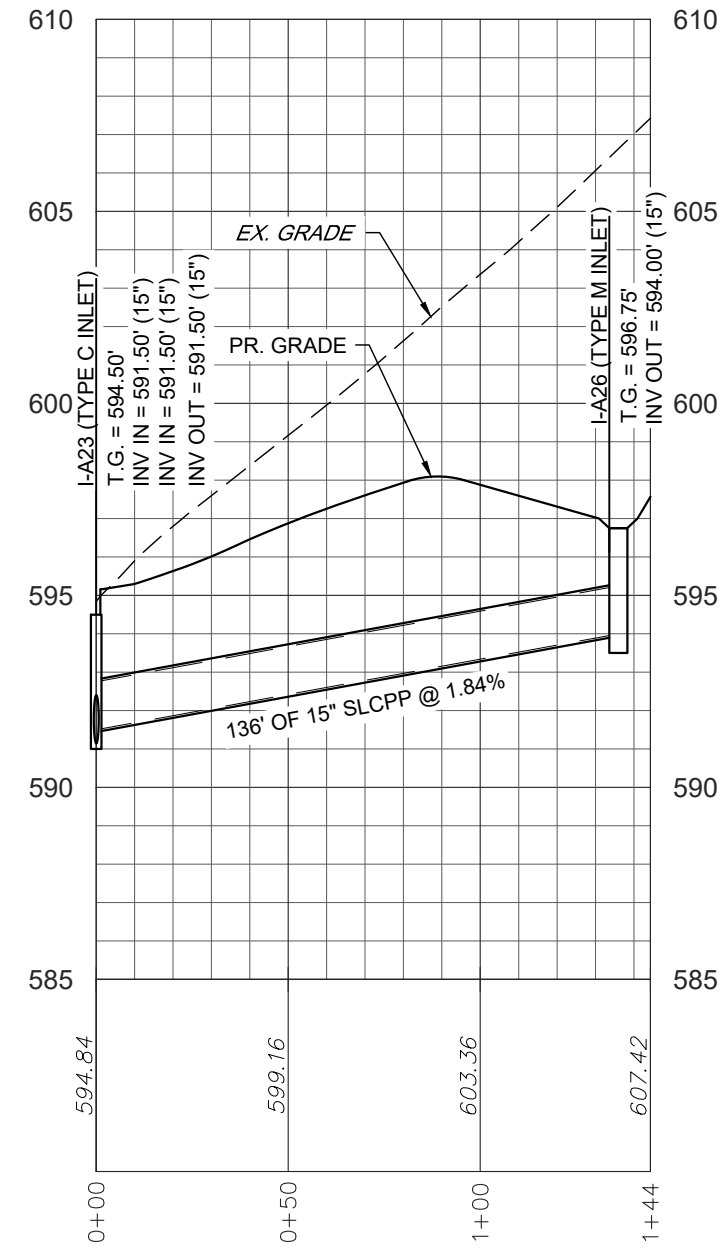
STORMWATER - EW-A19 TO I-A28



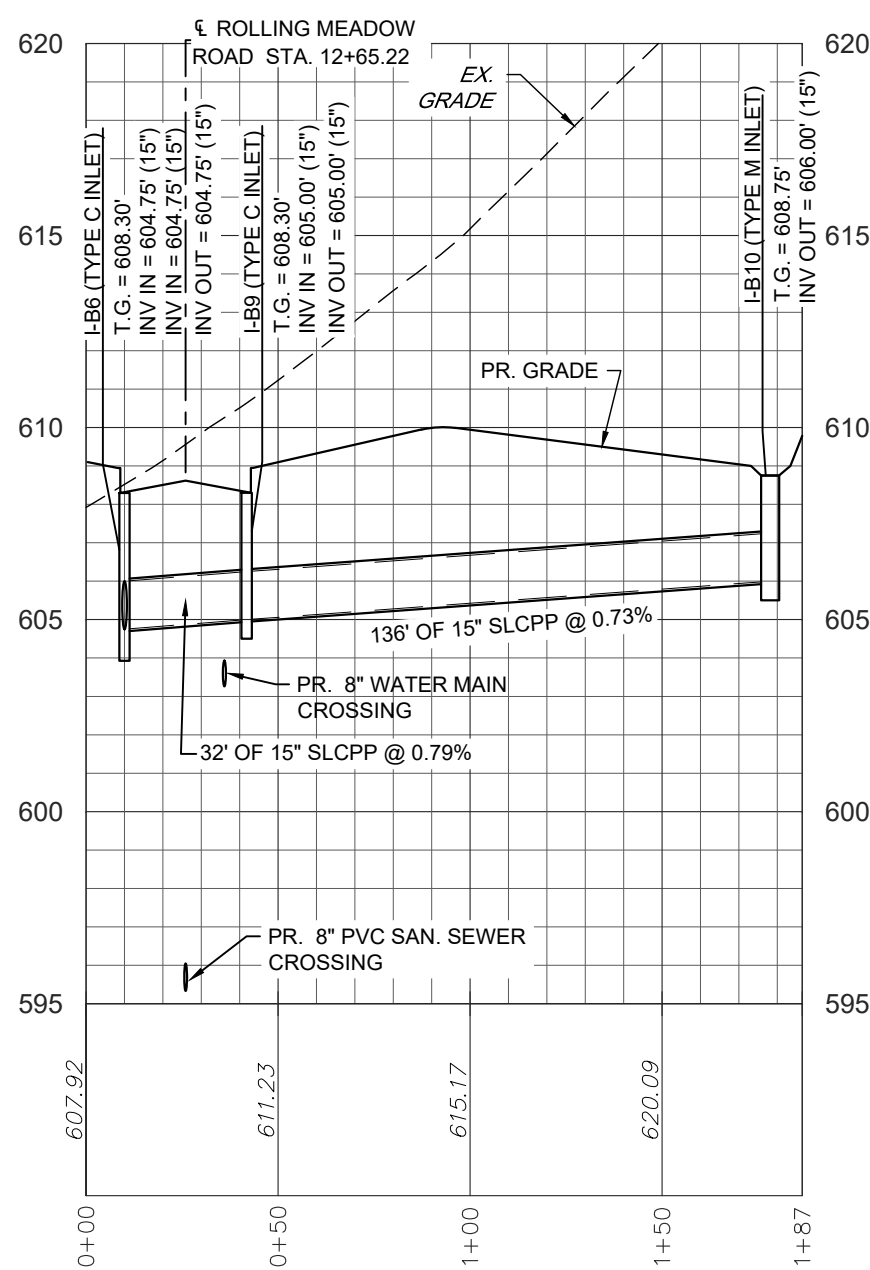
STORMWATER - EW-B3 TO I-B12



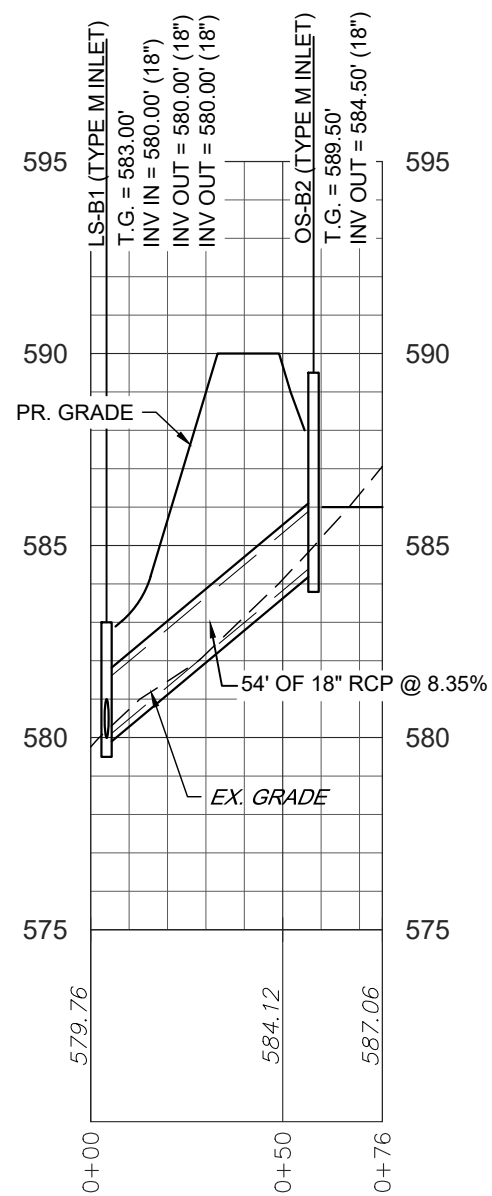
STORMWATER - I-A8 TO I-A15



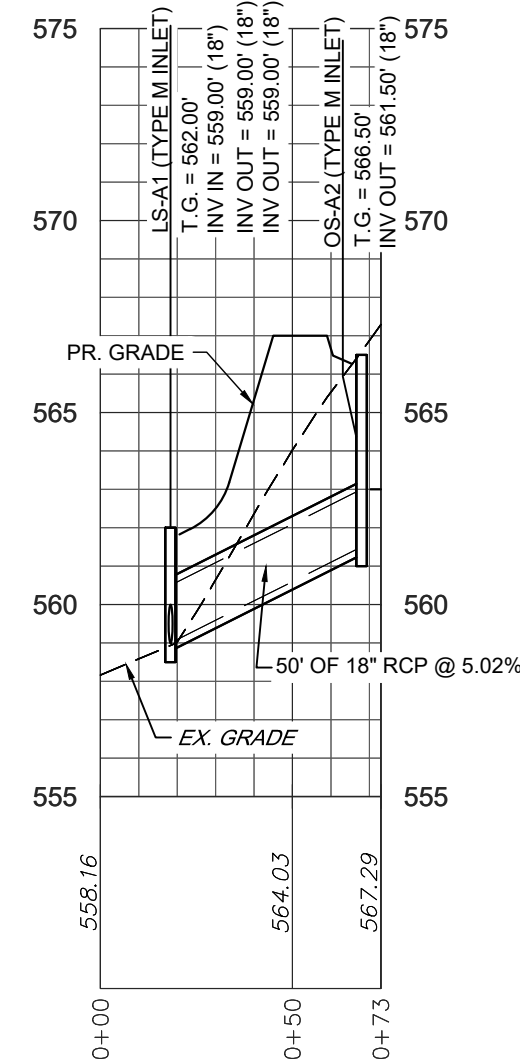
STORMWATER - I-A23 TO I-A26



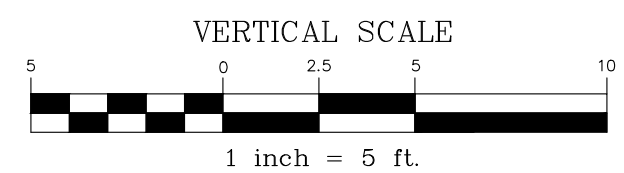
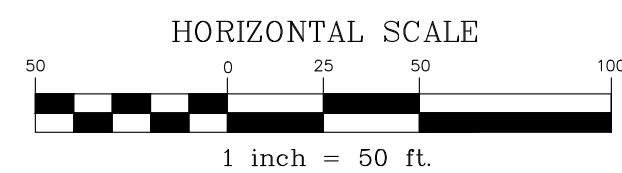
STORMWATER - I-B6 TO I-B10



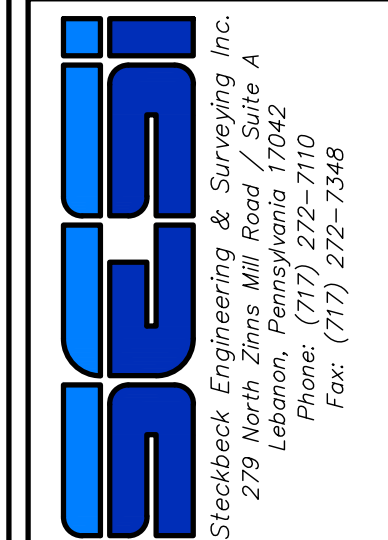
STORMWATER - LS-B1 TO OS-B2



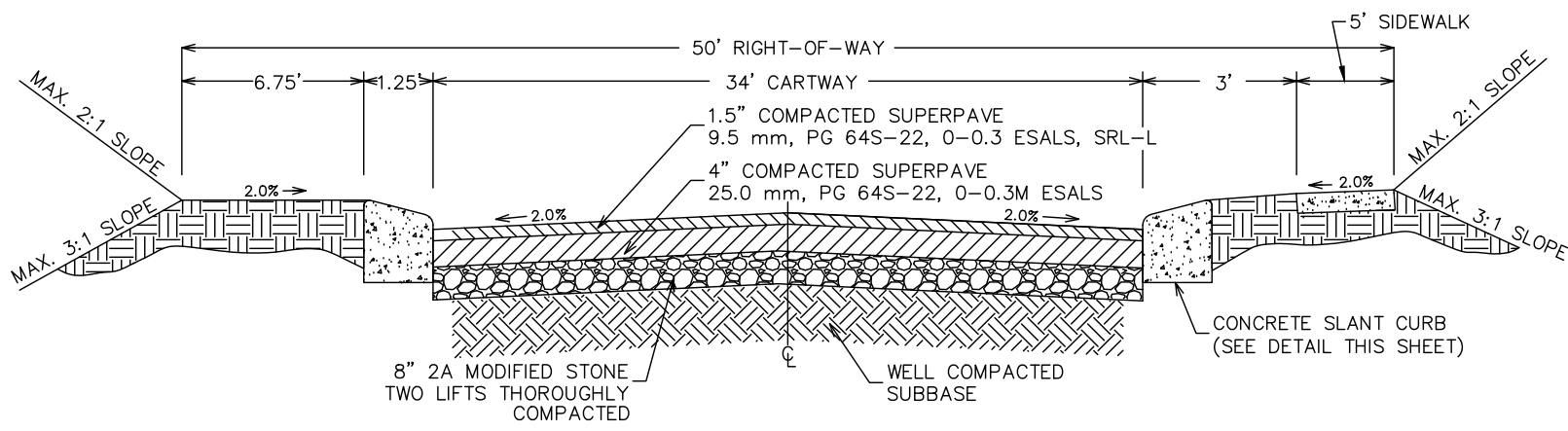
STORMWATER - LS-A1 TO OS-A2



PROFILES
FINAL - PHASE 1
SUBDIVISION & LAND DEVELOPMENT PLAN
for
THE ESTATES AT HEARTHSHIRE
located in
NORTH LEBANON TOWNSHIP
LEBANON County, Pennsylvania

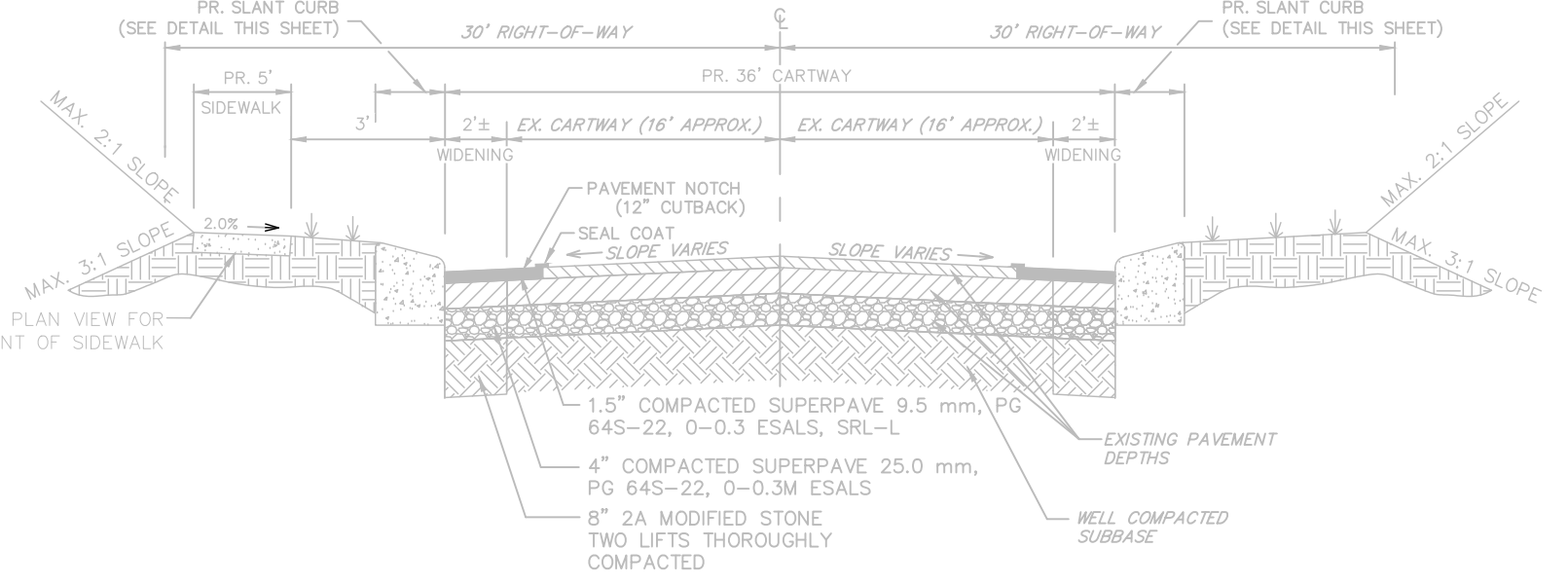


FIELD CREW:	MOD, JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	6/19/24
SCALE:	1"=50'
PROJECT #	784-24-001



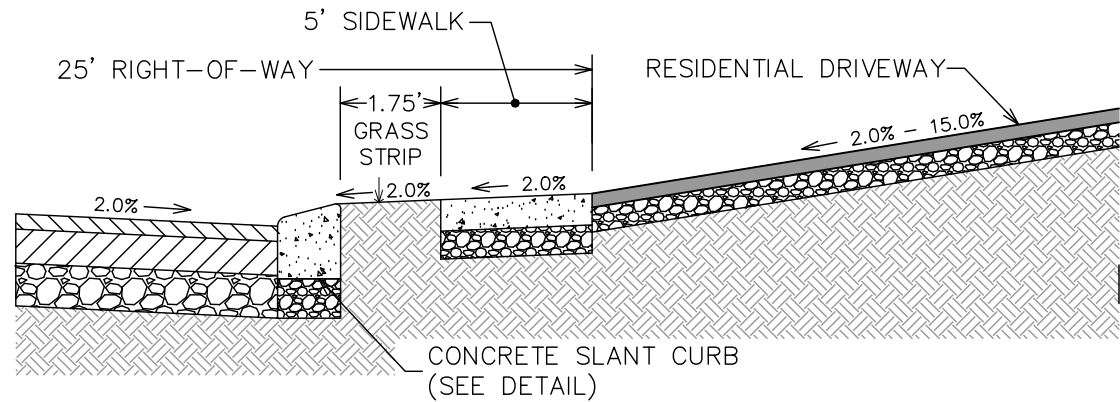
PROPOSED ROAD CROSS SECTION DETAIL

NO SCALE



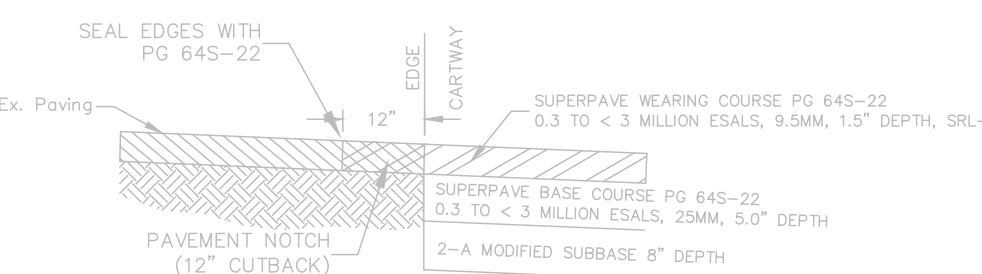
PROPOSED HORIZON BLVD. (T-498) TYPICAL WIDENING DETAIL

NO SCALE



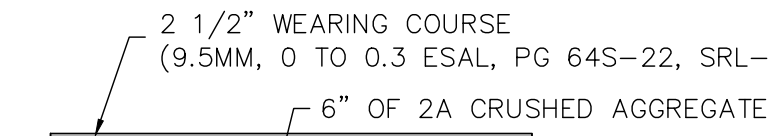
TYPICAL DRIVEWAY @ SIDEWALK DETAIL

NO SCALE



PAVEMENT NOTCH DETAIL

NO SCALE

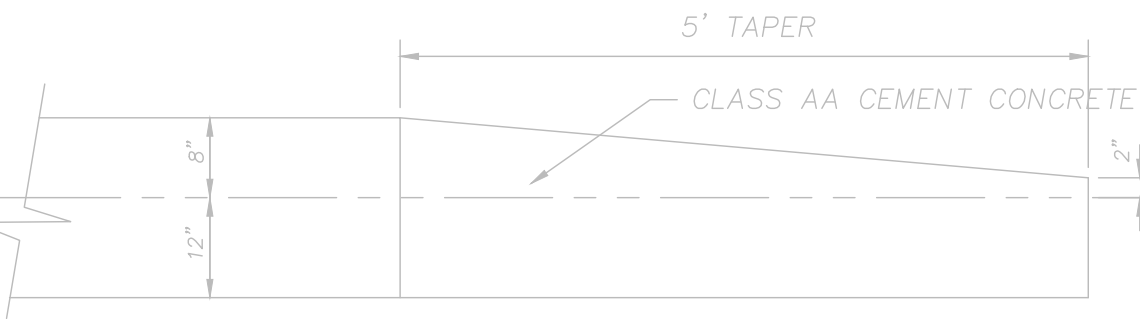


STANDARD DRIVEWAY PAVING DETAIL

NOTE: 1. SEAL ALL EDGES WITH PG 64S-22
2. COMPACTED DEPTHS ARE SHOWN.

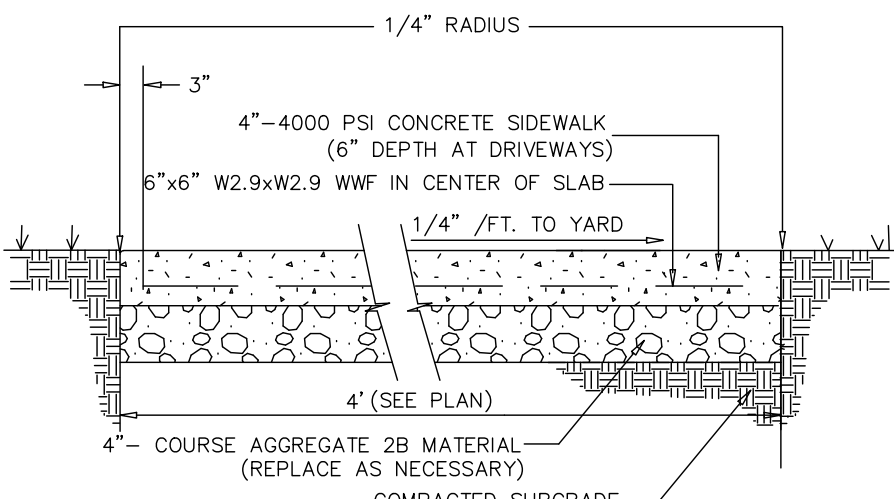
STANDARD DRIVEWAY PAVING DETAIL

NO SCALE



CURB TERMINAL END SECTION

NO SCALE



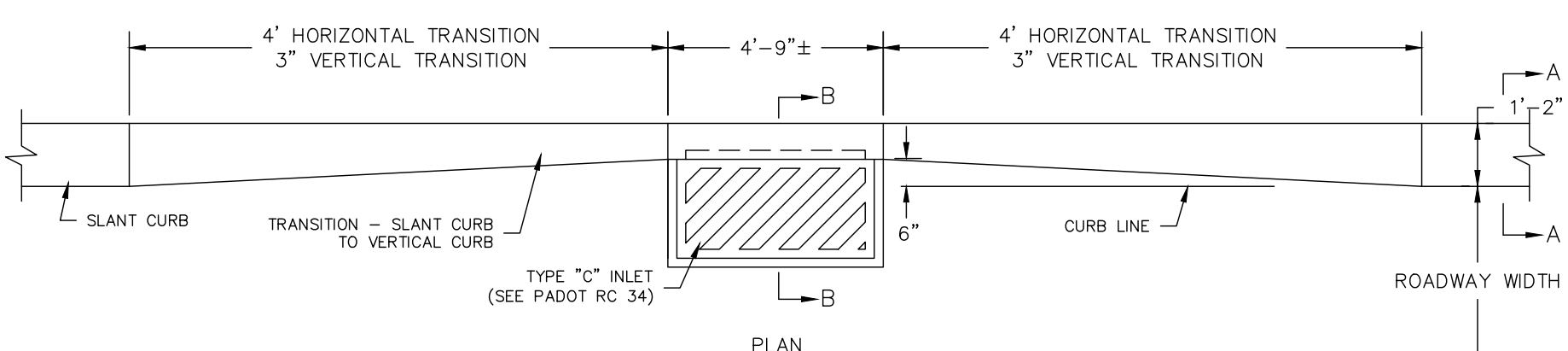
NOTES:
1. EXPANSION JOINTS LOCATED AT 10' MIN. TO 20' MAX O.C., MATCH EXISTING IF APPLICABLE.
2. TOOLED JOINTS LOCATED AT 5' O.C.
3. SIDEWALK IS TO BE LIGHT BROOM FINISHED IN THE DIRECTION OF SIDEWALK WIDTH.
4. THIS DETAIL MAY BE FIELD MODIFIED ONLY IF IT IS APPROVED BY THE SOUTH LEBANON TOWNSHIP.
5. SIDEWALK TO HAVE A 2% CROSS SLOPE AWAY FROM ROAD.
6. CONCRETE SEALER SHALL BE APPLIED TO SIDEWALK AT A RATE AND THICKNESS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. CONCRETE SEALER SHALL ONLY BE APPLIED IN DRY CONDITIONS WHEN BOTH THE SURFACE AND AMBIENT TEMPERATURES ARE 50°F AND ABOVE.

CONCRETE SIDEWALK/DRIVEWAY APRON DETAIL

NO SCALE

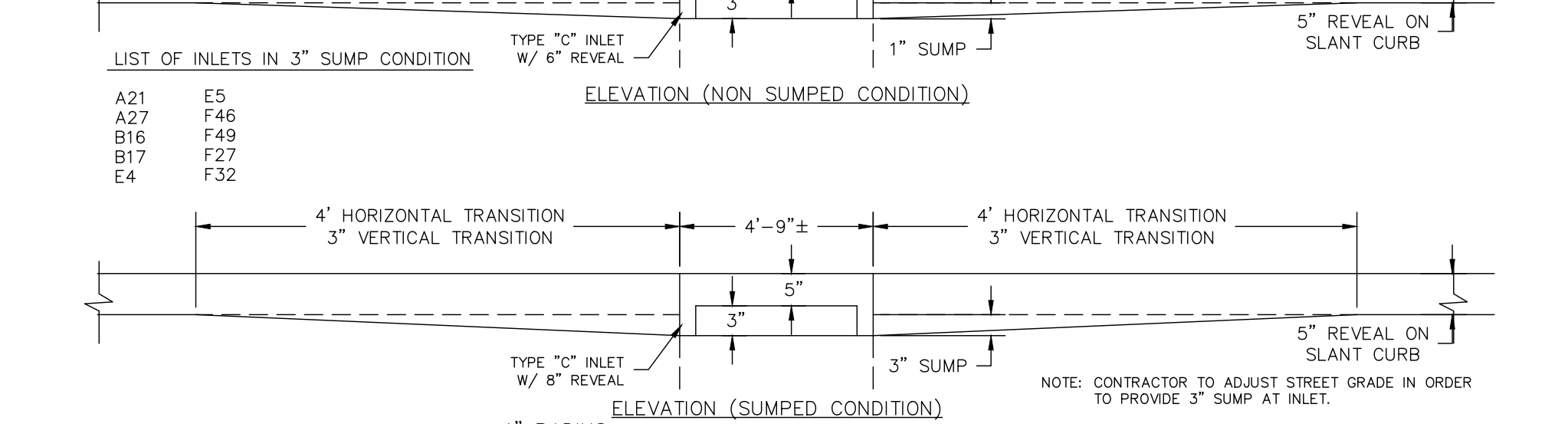
TYPE 2 CURB RAMP DETAIL

NO SCALE



SLANT CURB TO TYPE C INLET CURB TRANSITION DETAIL

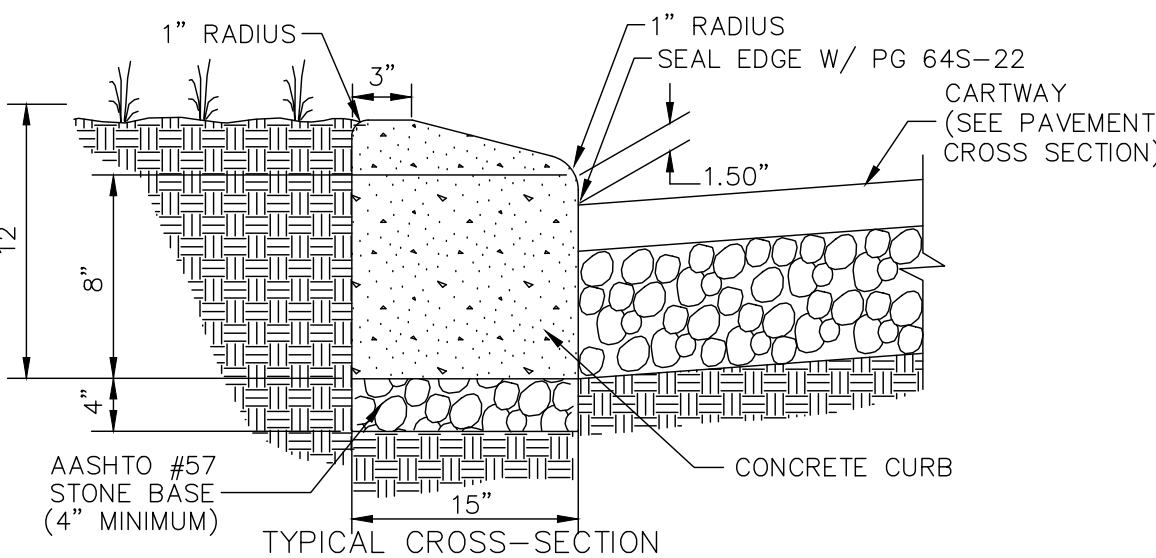
NO SCALE



TYPICAL CROSS-SECTION

SLANT CURB TO TYPE C INLET CURB TRANSITION DETAIL

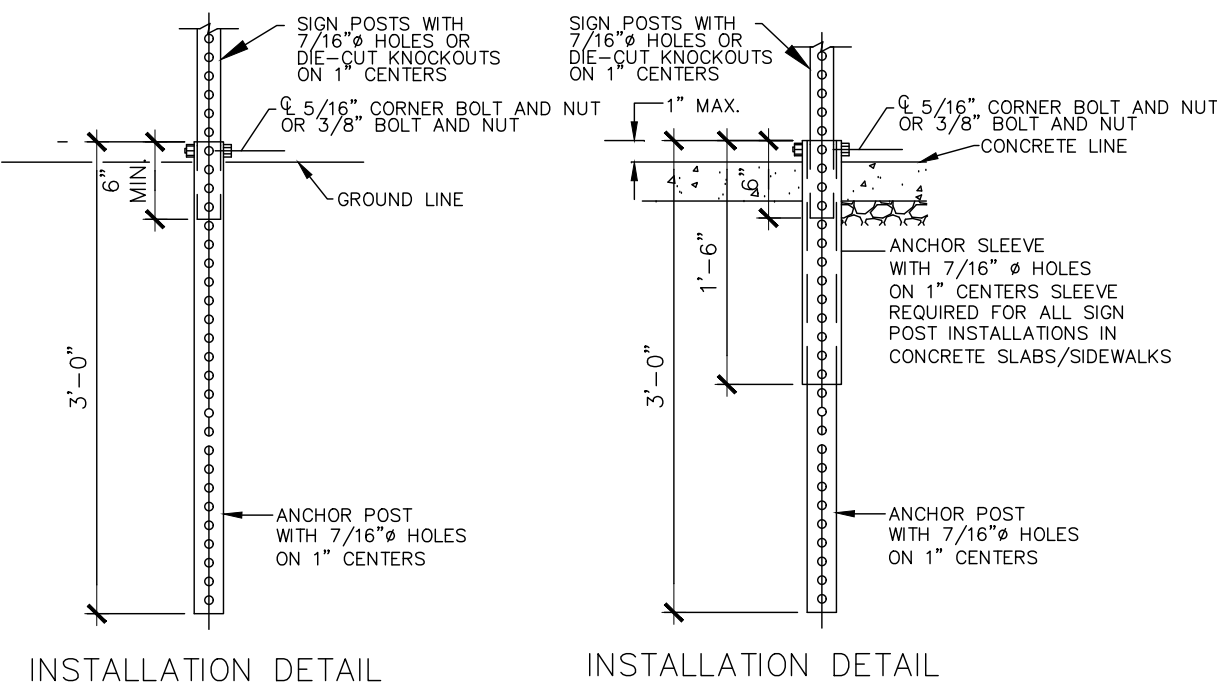
NO SCALE



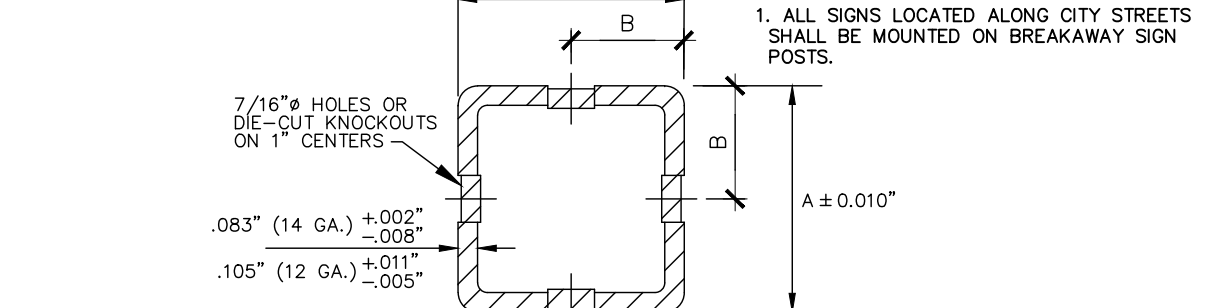
NOTES:
1. A SMOOTH CURB TRANSITION SHALL BE PROVIDED AT THE INTERSECTION OF SLANT CURBS AND ROADWAY INLETS.
2. BACK OF CURB TO BE IN LINE WITH BACK OF INLET.
CURBS:
1/2\"/>

SLANT CURB DETAIL

NO SCALE



INSTALLATION DETAIL (STANDARD)



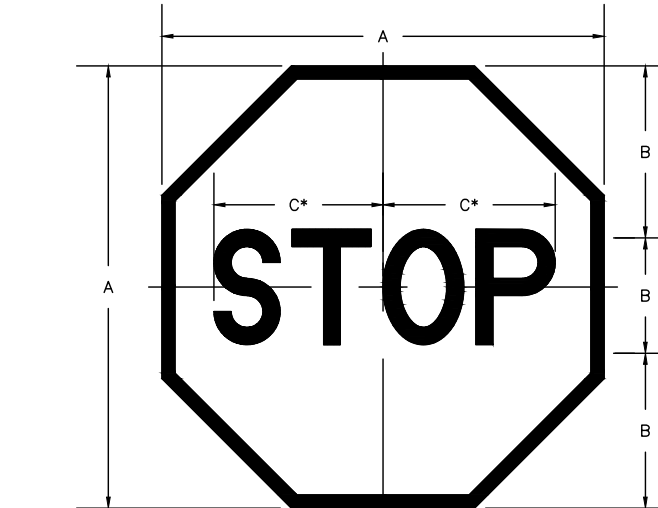
SIGN POST			ANCHOR POST			ANCHOR SLEEVE*			SPLICE SLEEVE		
SIZE	DIMENSION A B	GAUGE	SIZE	DIMENSION A B	GAUGE	SIZE	DIMENSION A B	GAUGE	SIZE	DIMENSION A B	GAUGE
1.75"	1 3/4" 7/8"	14	2.0"	2" 1"	12	2.25"	2 1/4" 1 1/8"	12	1.50"	1 1/2" 3/4"	14
2.0"	2" 1"	14	2.25"	2 1/4" 1 1/8"	12	2.50"	2 1/2" 1 1/4"	12	1.75"	1 3/4" 7/8"	14
2.25"	2 1/4" 1 1/8"	14	2.50"	2 1/2" 1 1/4"	12	3.00"	3" 1 1/2" 3/16"	12	2.00"	2" 1"	14

SQUARE STEEL POSTS

12 AND 14 GAUGE - 60 KSI

SITE SIGN POST SIGNAGE DETAIL

NO SCALE



STOP SIGN DETAIL

NO SCALE

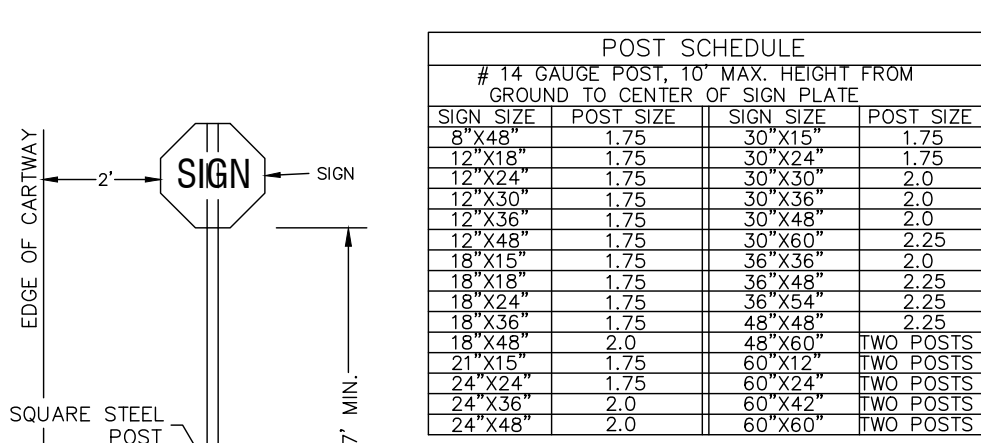
⇒

SIGN SIZE	DIMENSIONS			SER IES	BOR DER	BLANK STD
	A	B	C			
24 X 24	24	8	10	C	$\frac{5}{8}$	B1-24
30 X 30	30	10	12	C	$\frac{3}{4}$	B1-30
36 X 36	36	12	15	C	$\frac{7}{8}$	B1-36
48 X 48	48	16	20	C	1 $\frac{1}{2}$	B1-48

* REDUCE SPACING 40%

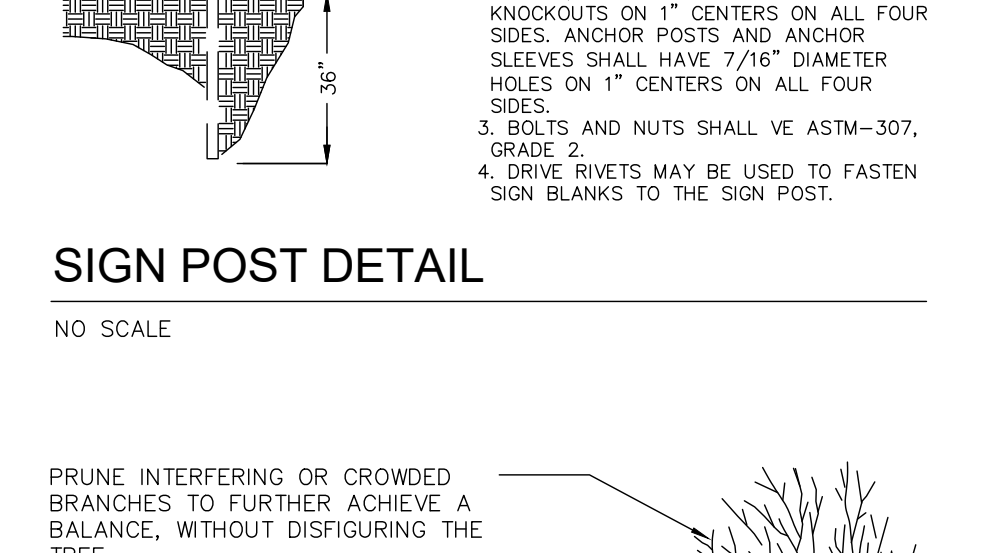
STOP SIGN DETAIL

NO SCALE



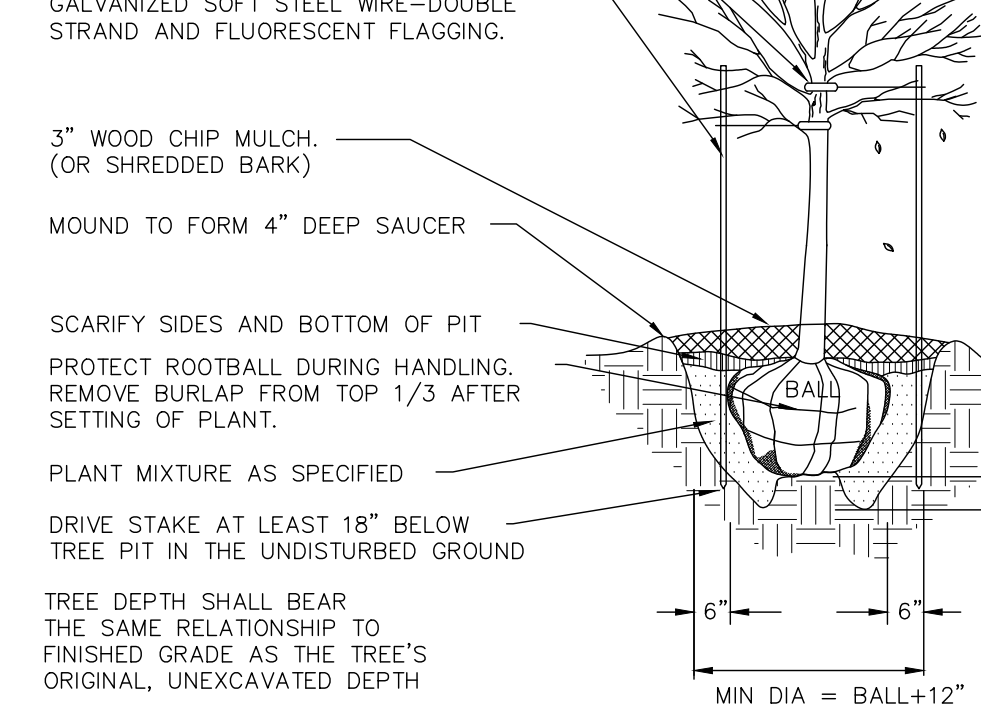
SIGN POST DETAIL

NO SCALE



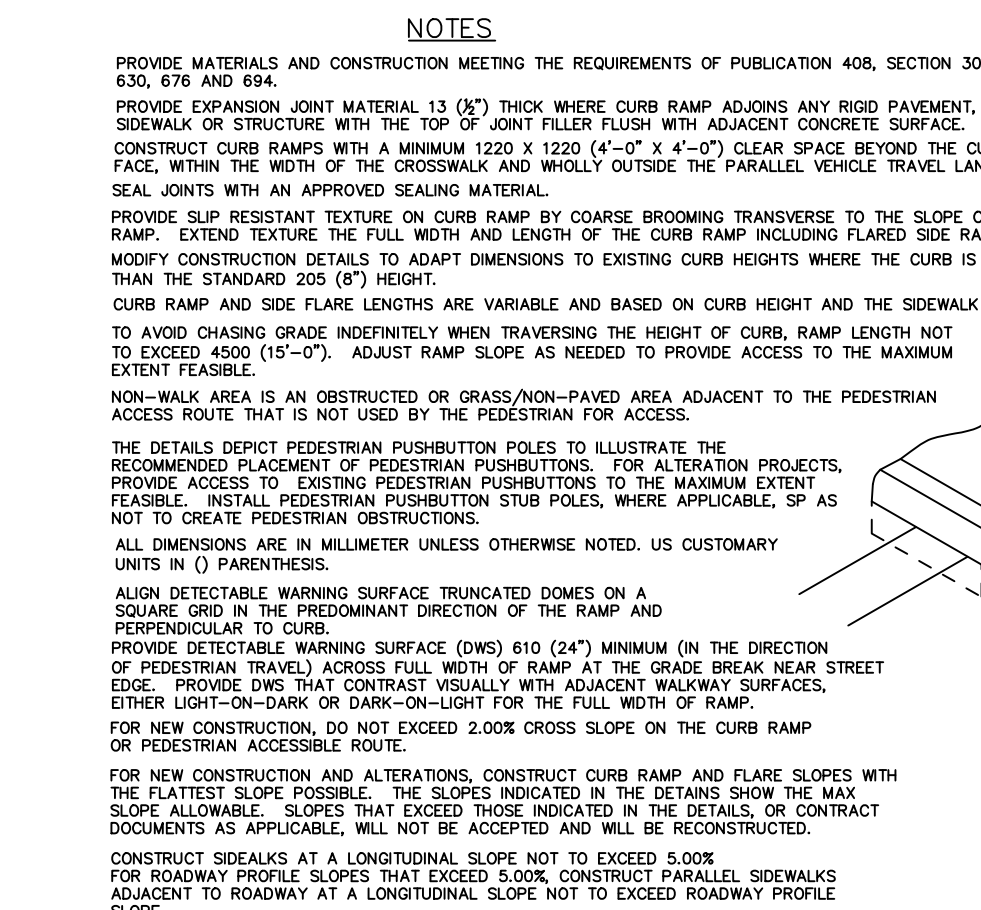
DECIDUOUS TREE PLANTING DETAIL

NO SCALE



CONCRETE MONUMENT DETAIL

NO SCALE



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

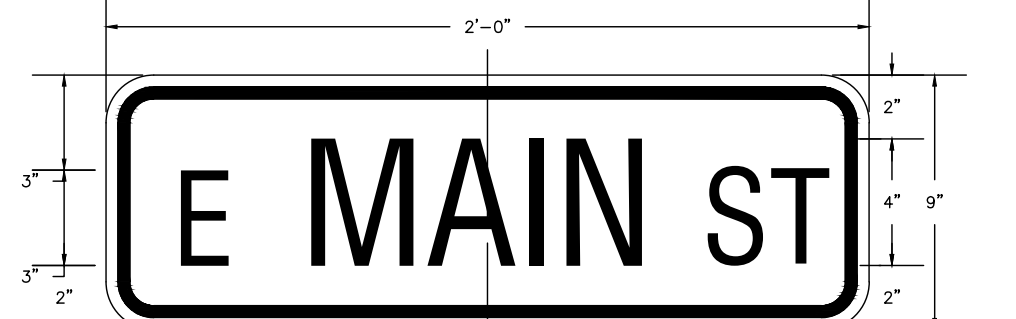
NO SCALE

SIGN SIZE	DIMENSIONS							SERIES			MAR- GIN	BOR- DER	BLANK STD
	A	B	C	D	E	F	G	LINES					
								1	2	3			
24x30	24	30	4	2	10	9 1/8	7 1/8	E	E	E	3/8	3/8	B5-3024
30x36	30	36	5	2	12	12	9 1/8	E	E	E	1/2	1/2	B5-3630
36x48	36	48	6	5	14	14 1/8	11	E	E	E	3/4	3/4	B5-4836
48x60	48	60	8	6	16	16 1/8	14 1/8	E	E	E	1	1 1/2	B5-6048



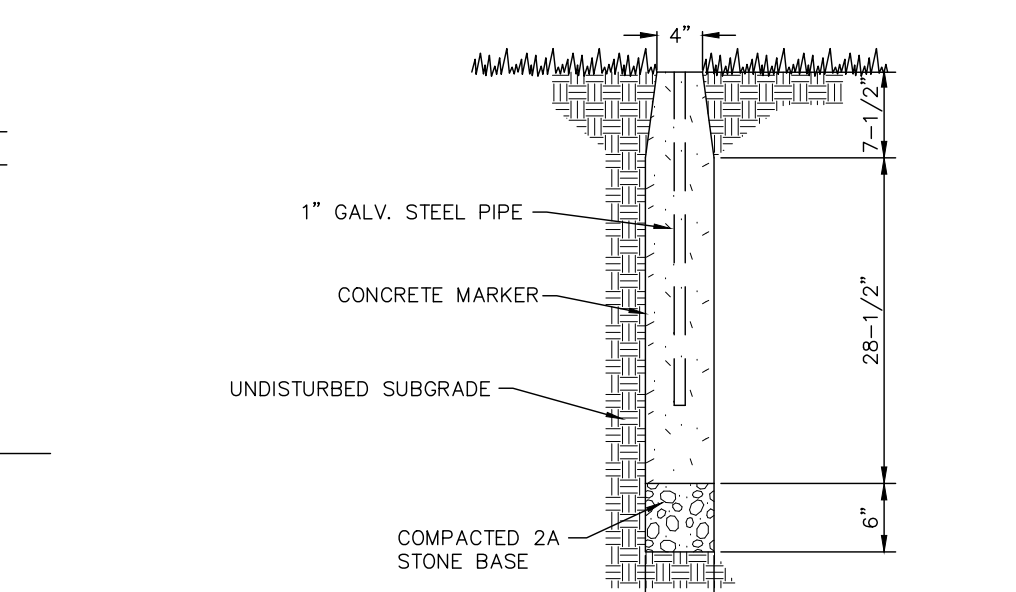
SPEED LIMIT SIGN DETAIL

NO SCALE



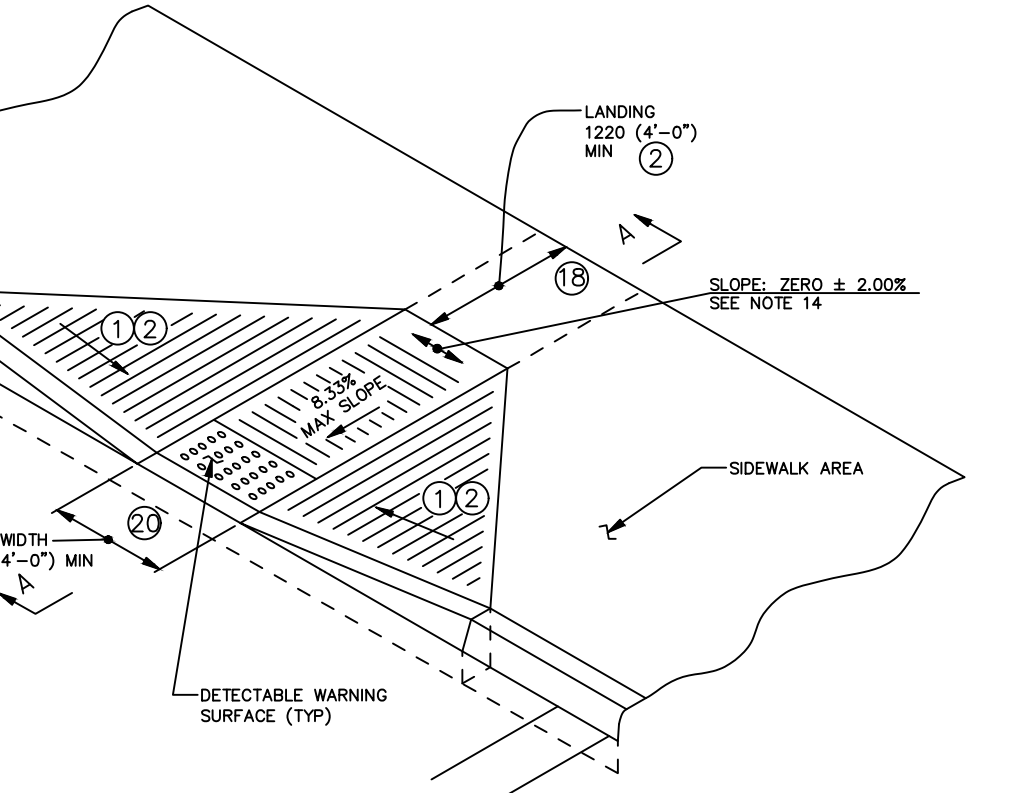
STREET NAME SIGN DETAIL

NO SCALE



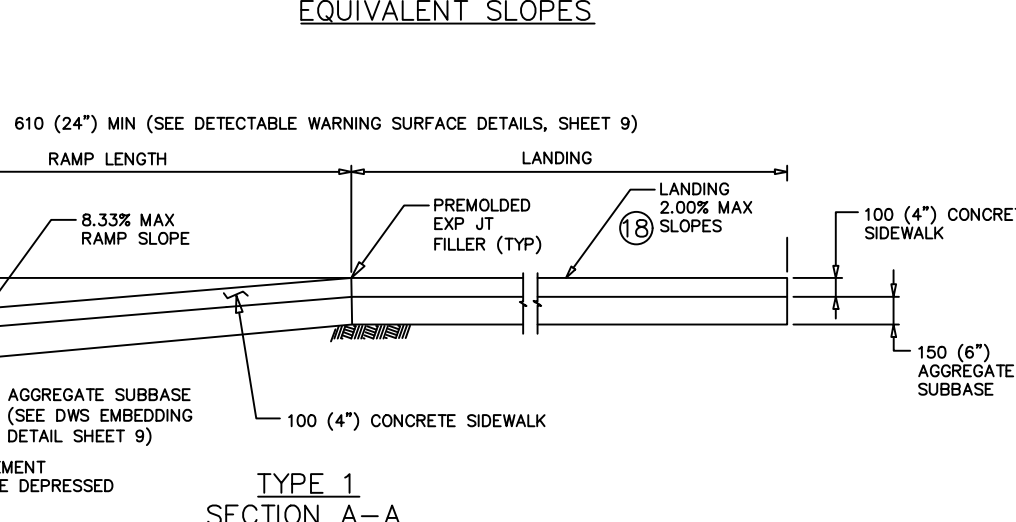
CONCRETE MONUMENT DETAIL

NO SCALE



TYPE 1 CURB RAMP

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)



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

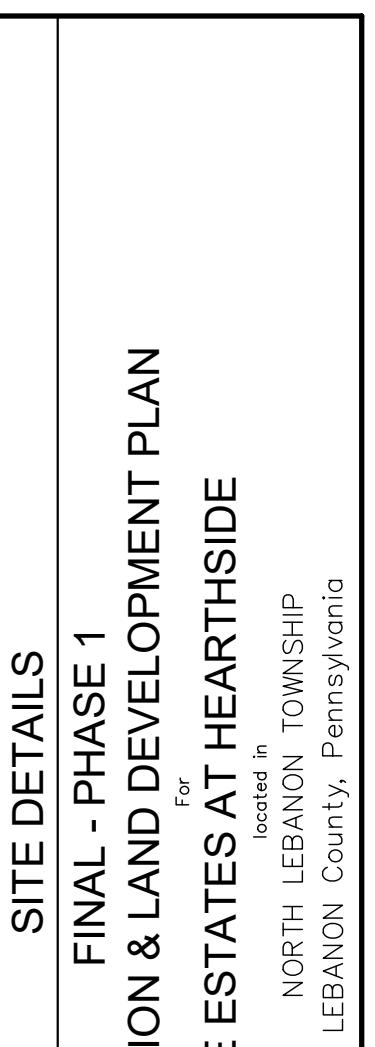
NO SCALE



BLANK SIGN DETAIL

NO SCALE

REVISION	DATE	BY	CD
PER ARRO LETTER DATED 7/3/24	8/12/24	CDS	CD
PER NITMA REVISIONS	8/12/24	CDS	CD
PER LPD LETTER DATED 7/16/24	8/12/24	CDS	CD



SITE DETAILS

FINAL - PHASE 1

SUBDIVISION & LAND DEVELOPMENT PLAN

THE ESTATES AT HEARTSHIDE

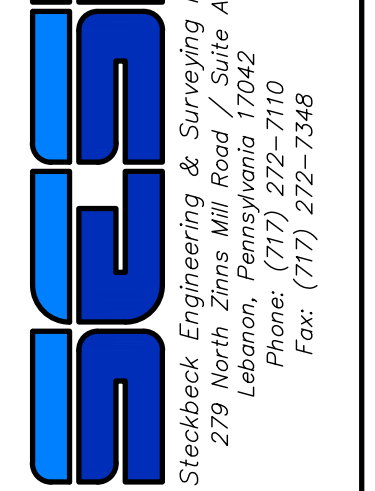
located in NORTH LEBANON TOWNSHIP

LEBANON County, Pennsylvania

279 Lebanon, Pennsylvania 17042

Phone: (717) 272-7102

Fax: (717) 272-7348



SITE DETAILS

FIELD CREW: MOD/JEC

BASE MAP: JEC

DRAWN: CDS

DESIGN: CDS

CHECKED: SAS

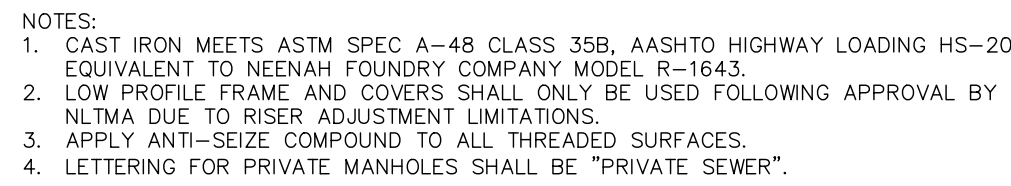
DATE: 6/19/24

SCALE: AS NOTED

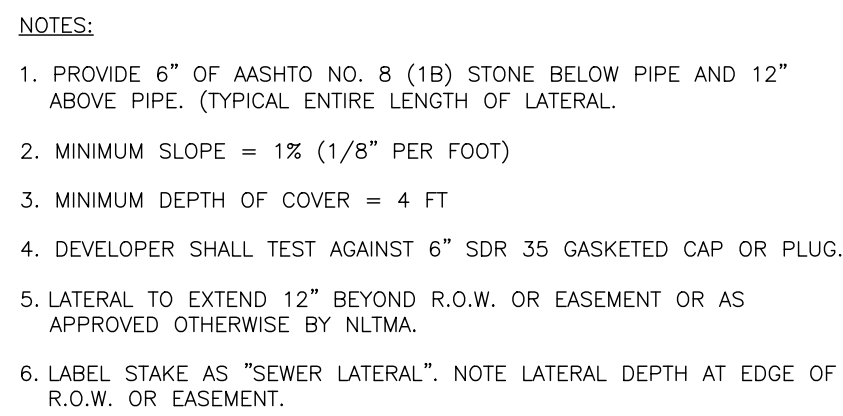
PROJECT #784-24-001

25

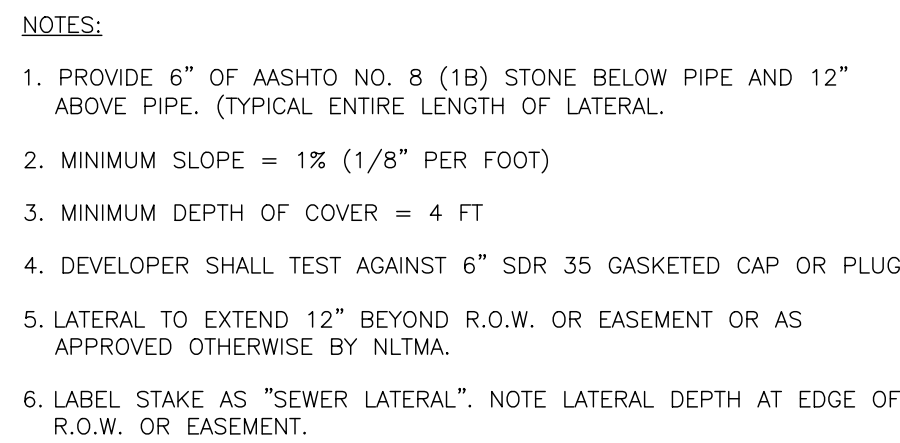
25 OF 33 SHEETS



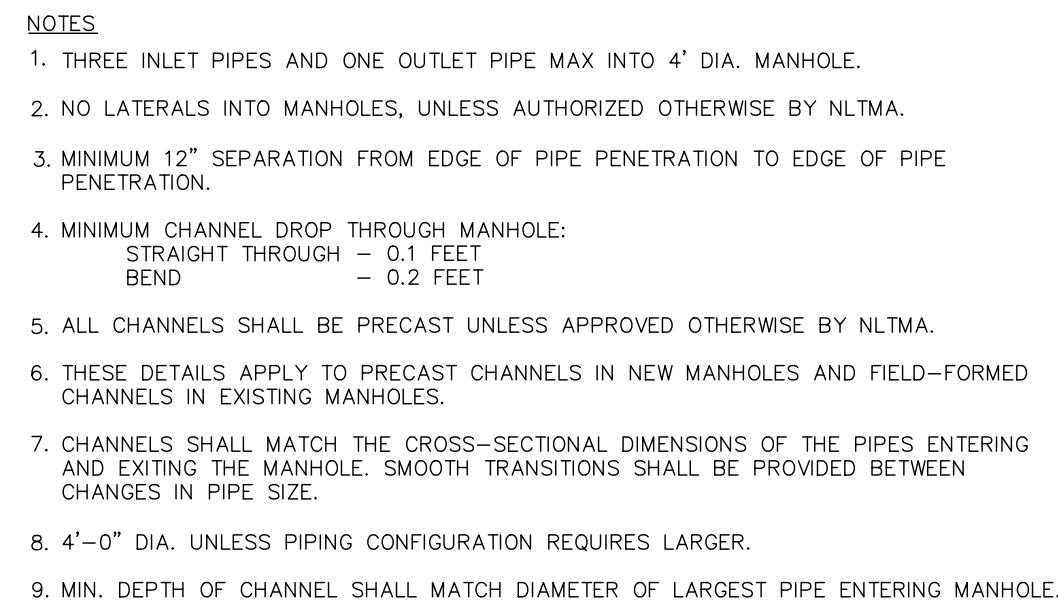
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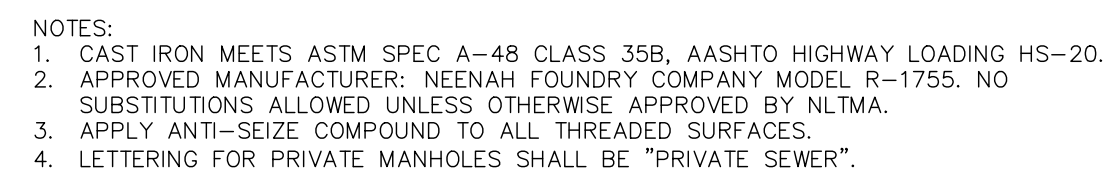
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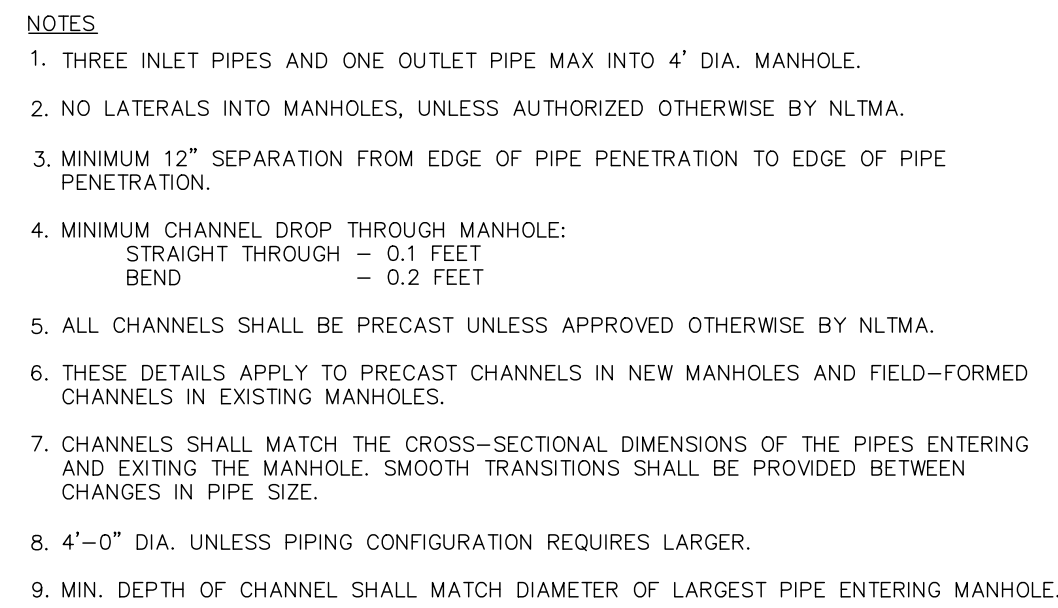
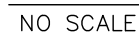
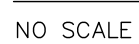
NO SCALE



NO SCALE



NO SCALE



NO SCALE

SANITARY SEWER DETAILS

FINAL - PHASE 1

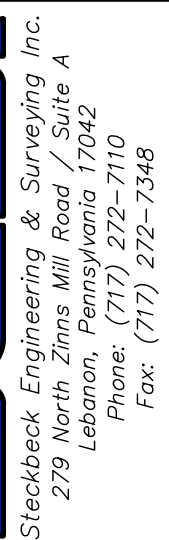
SUBDIVISION & LAND DEVELOPMENT PLAN

For

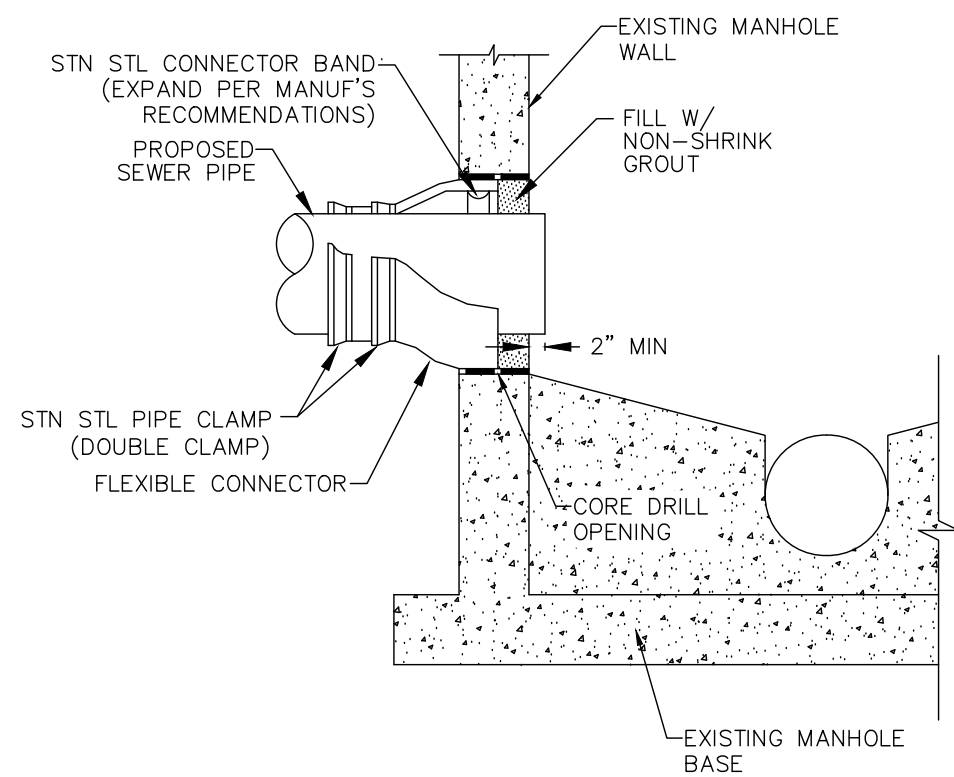
THE ESTATES AT HEARTHSIDE

located in

NORTH LEBANON TOWNSHIP
LEBANON County, Pennsylvania



26 OF 33 SHEETS

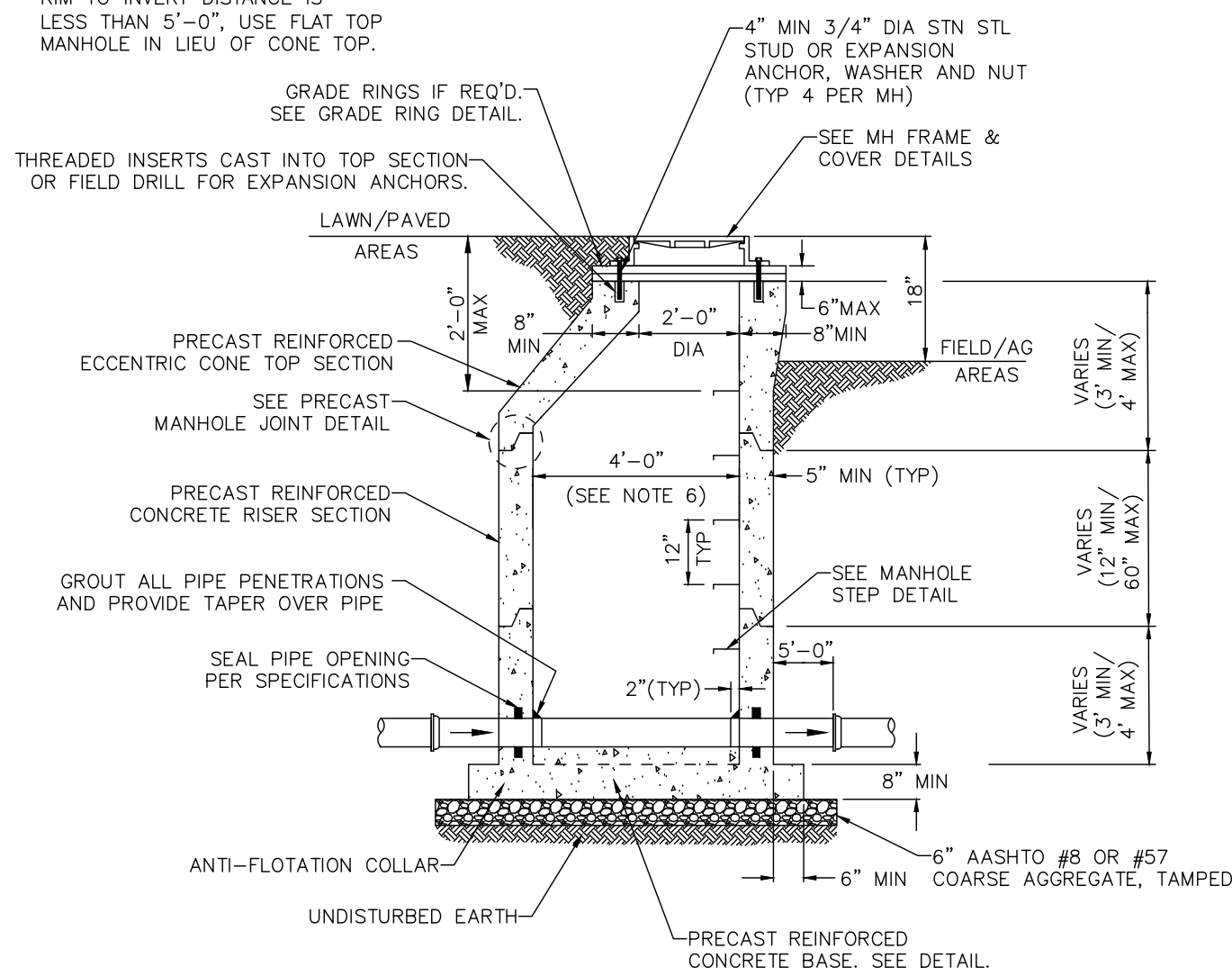


PIPE TO MANHOLE CONNECTOR DETAIL

NO SCALE

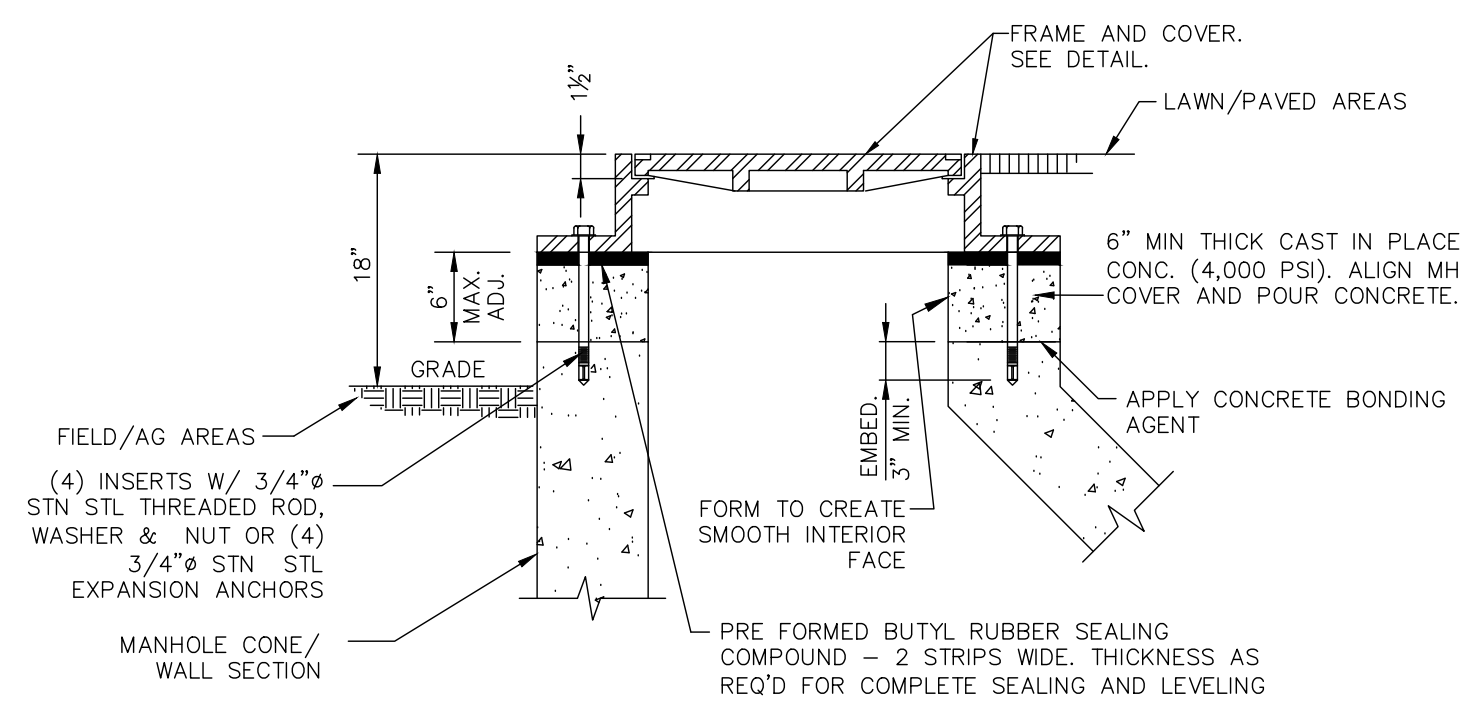
NOTES:

1. PRECAST REINFORCED CONCRETE MANHOLES SHALL CONFORM TO A.S.T.M. SPEC. C-478.
2. STEEL REINFORCEMENT SHALL BE GRADE 60 PER ASTM A-615.
3. IF INCOMING INVERT EXCEEDS OUTGOING INVERT BY GREATER THAN OR EQUAL TO 12", SEE INSIDE SPLASH/ INSIDE DROP MANHOLE DETAILS.
4. FOR MANHOLES WHERE TOP OF RIM TO INVERT DISTANCE IS LESS THAN 5'-0", USE FLAT TOP MANHOLE IN LIEU OF CONE TOP.
5. FILL ALL LIFTING HOLES WITH NON-SHRINK GROUT.
6. 5" DIA MANHOLE REQUIRED ON INSIDE DROP. SEE INSIDE DROP MH DETAIL FOR ADDITIONAL DETAILS.
7. ALL MANHOLE HARDWARE SHALL BE STN STL.



PRECAST CONCRETE MANHOLE DETAIL

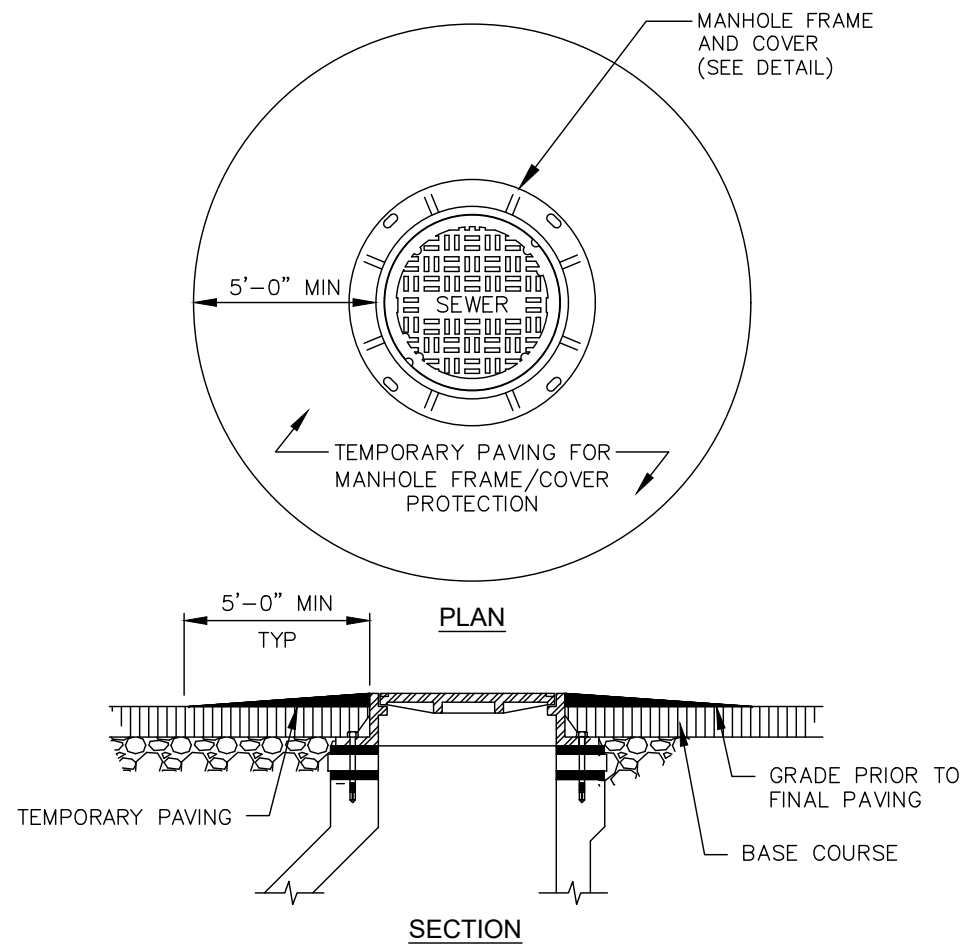
NO SCALE



1. CONTRACTOR HAS OPTION TO PROVIDE ANY OF THE OPTIONS INDICATED.
2. TAPER GRADE RINGS TO MATCH ROAD PAVING AREAS.

MANHOLE GRADE RINGS DETAIL

NO SCALE

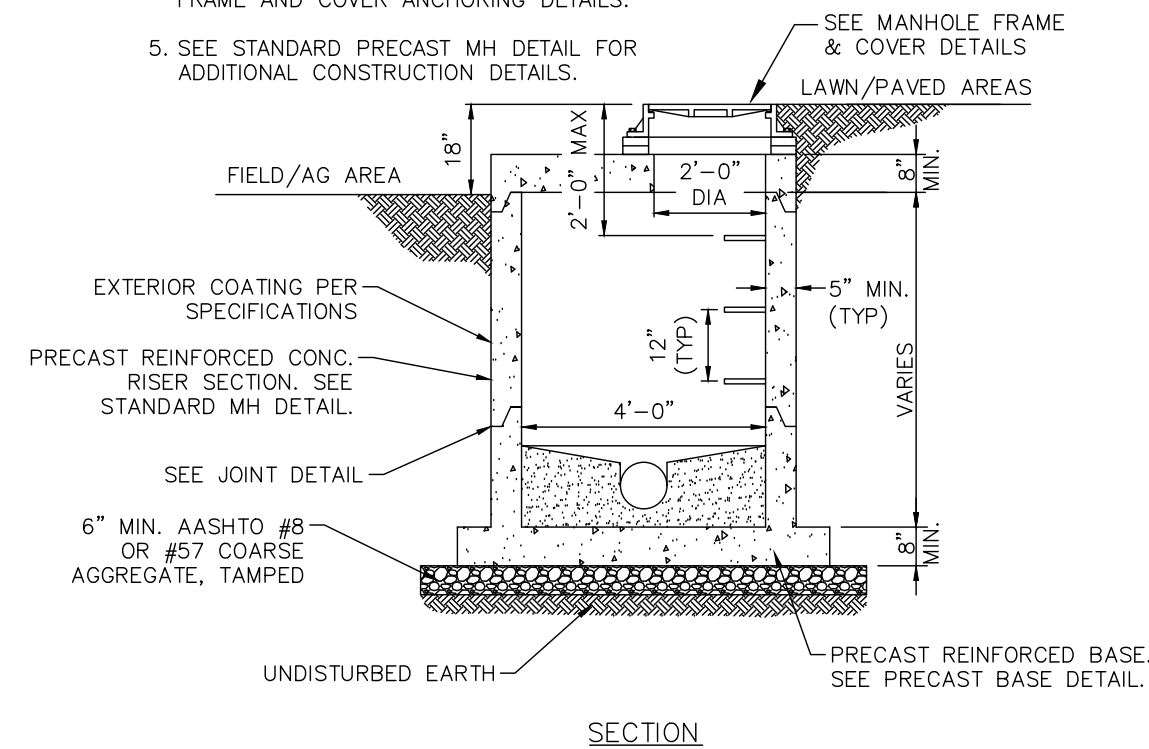


MANHOLE FRAME AND COVER PROTECTION DETAIL

NO SCALE

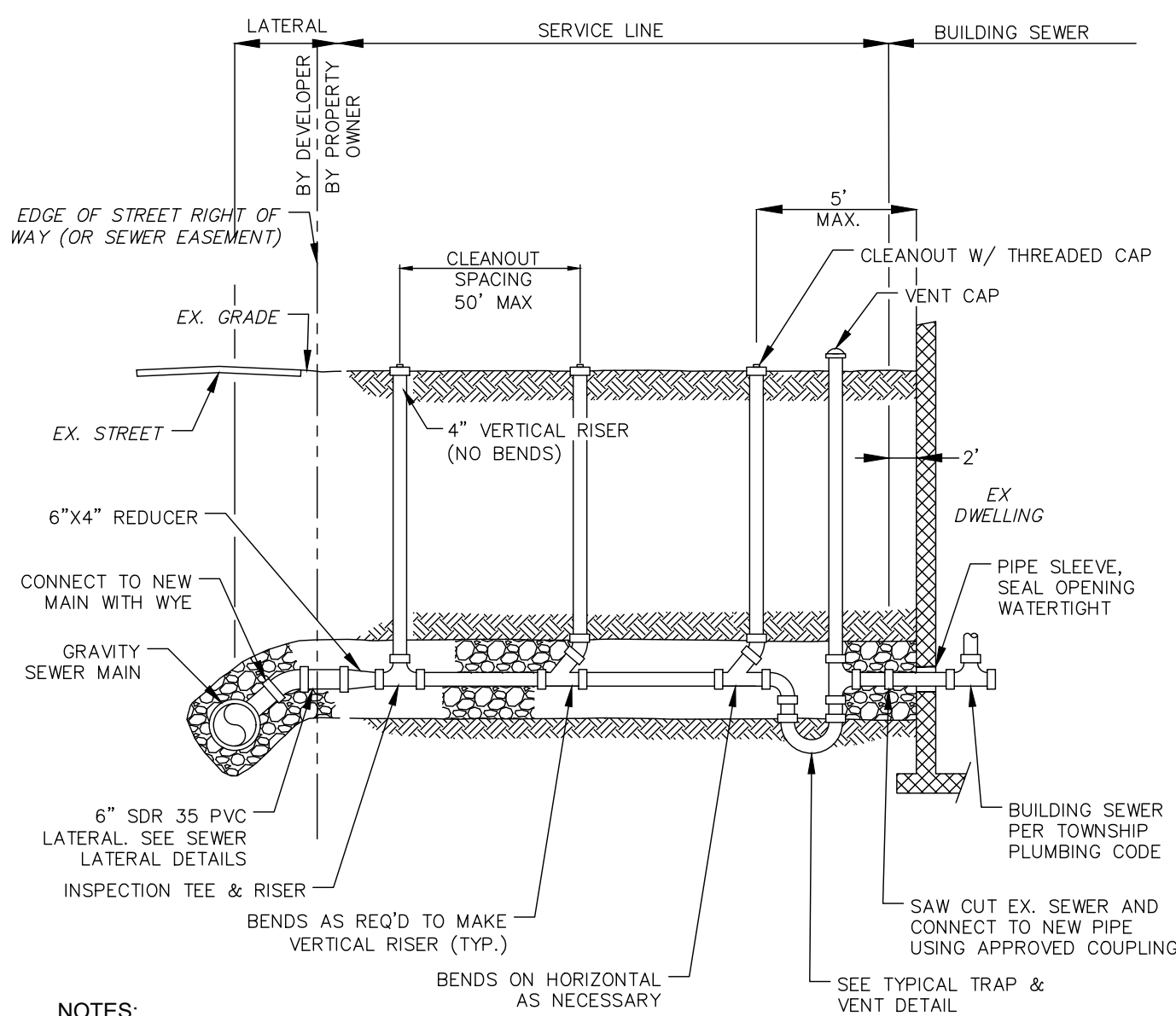
NOTES:

1. USE FLAT TOP MANHOLES WHERE TOP OF RIM TO INVERT DISTANCE IS LESS THAN 5'-0" OR WHERE DIRECTED BY NLMA.
2. PRECAST REINFORCED CONCRETE MANHOLES SHALL CONFORM TO A.S.T.M. SPEC. C-478.
3. FILL ALL LIFTING HOLES WITH NON-SHRINK GROUT.
4. ALL MANHOLE HARDWARE SHALL BE STN STL. SEE STANDARD PRECAST MH DETAIL FOR FRAME AND COVER ANCHORING DETAILS.
5. SEE STANDARD PRECAST MH DETAIL FOR ADDITIONAL CONSTRUCTION DETAILS.



FLAT TOP MANHOLE DETAIL (FOR SHALLOW DEPTH APPLICATIONS)

NO SCALE



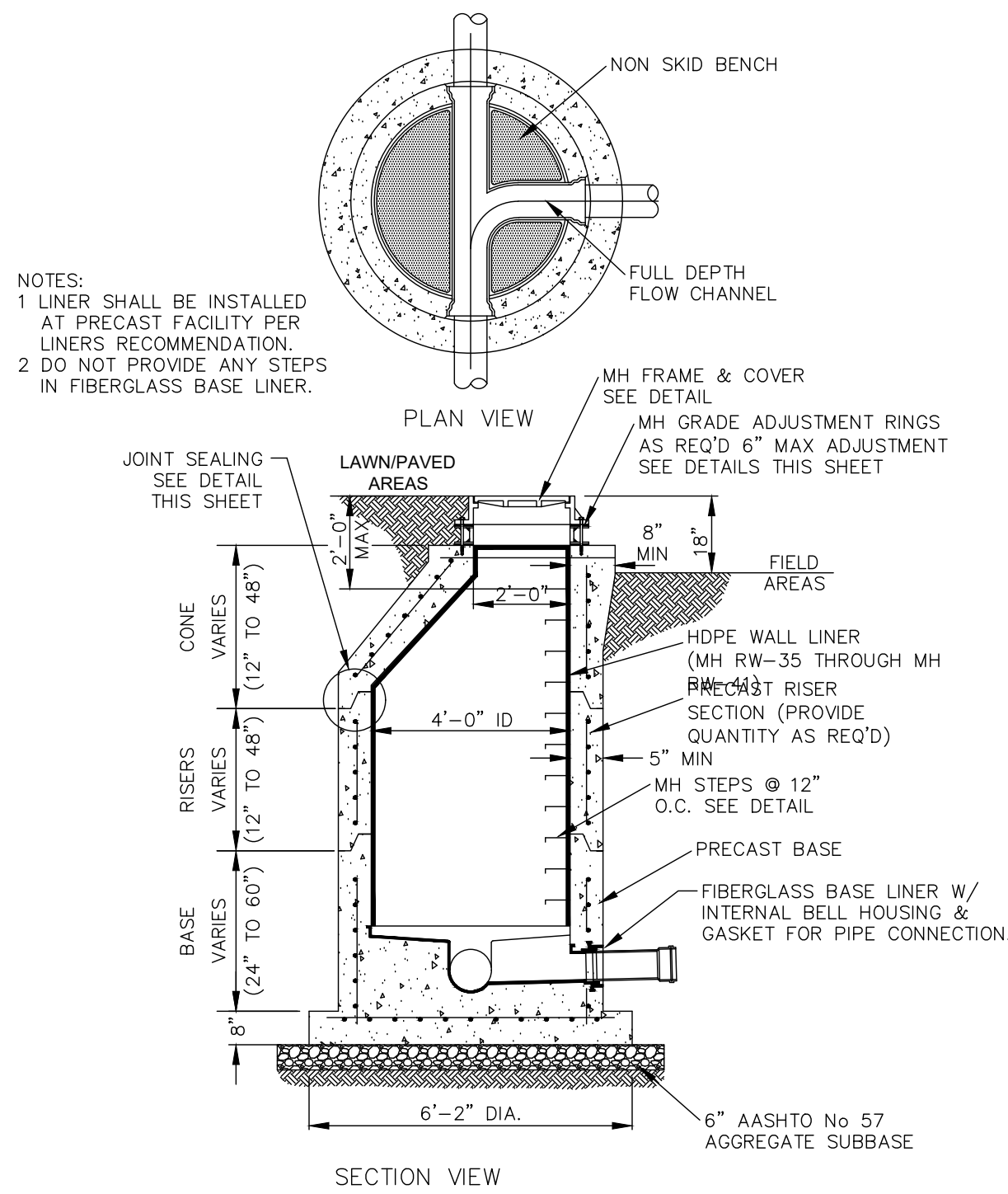
NOTES:

1. PROVIDE 6" OF AASHTO NO. 8 (18) STONE BELOW PIPE AND 12" ABOVE PIPE (TYPICAL ENTIRE LENGTH OF LATERAL)
2. MINIMUM SLOPE 1% (1/8" PER FT)
3. MINIMUM DEPTH OF COVER = 4 FT
4. PIPE MATERIALS:
SERVICE LINE - PVC SDR 35 (PUSH-ON JOINTS)
INSPECTION TEE & RISER - PVC SCH 40, SOLVENT WELD

5. NO SEWER SERVICE LINE VENT CAPS SHALL BE INSTALLED WITHIN A 100 YEAR FLOOD PLAIN OR WITHIN FLOOD PRONE AREAS.
6. NO VENT CAPS OR CLEANOUTS SHALL BE INSTALLED IN DRIVEWAYS OR OTHER PAVED AREAS UNLESS SPECIFICALLY APPROVED BY NLMA.
7. STAMP CONCRETE CURB WITH AN "S" TO LOCATE SANITARY SEWER LATERALS.

GRAVITY SERVICE LINE INSTALLATION DETAIL

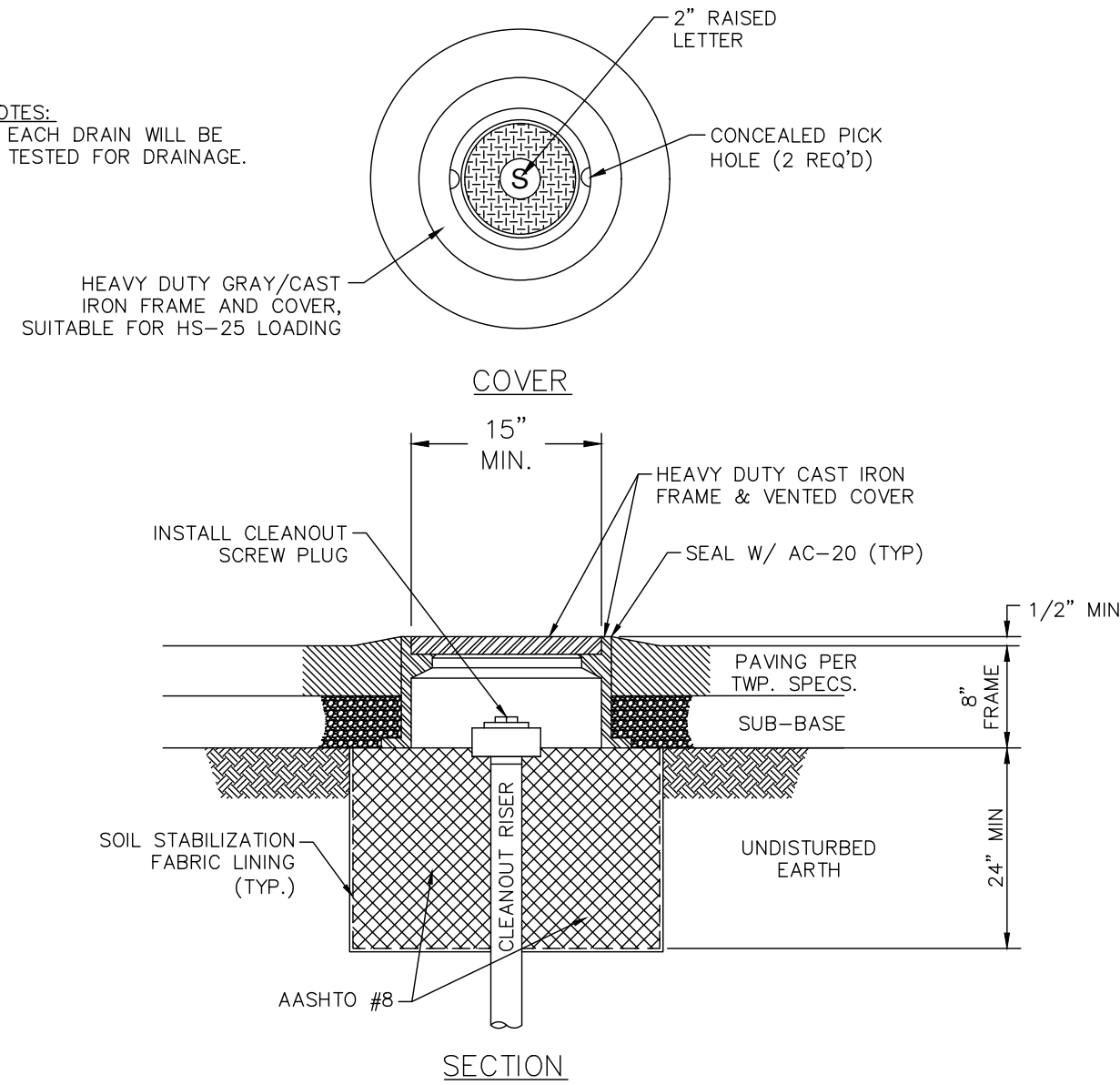
NO SCALE



PRECAST MANHOLE W/ BASE LINER DETAIL

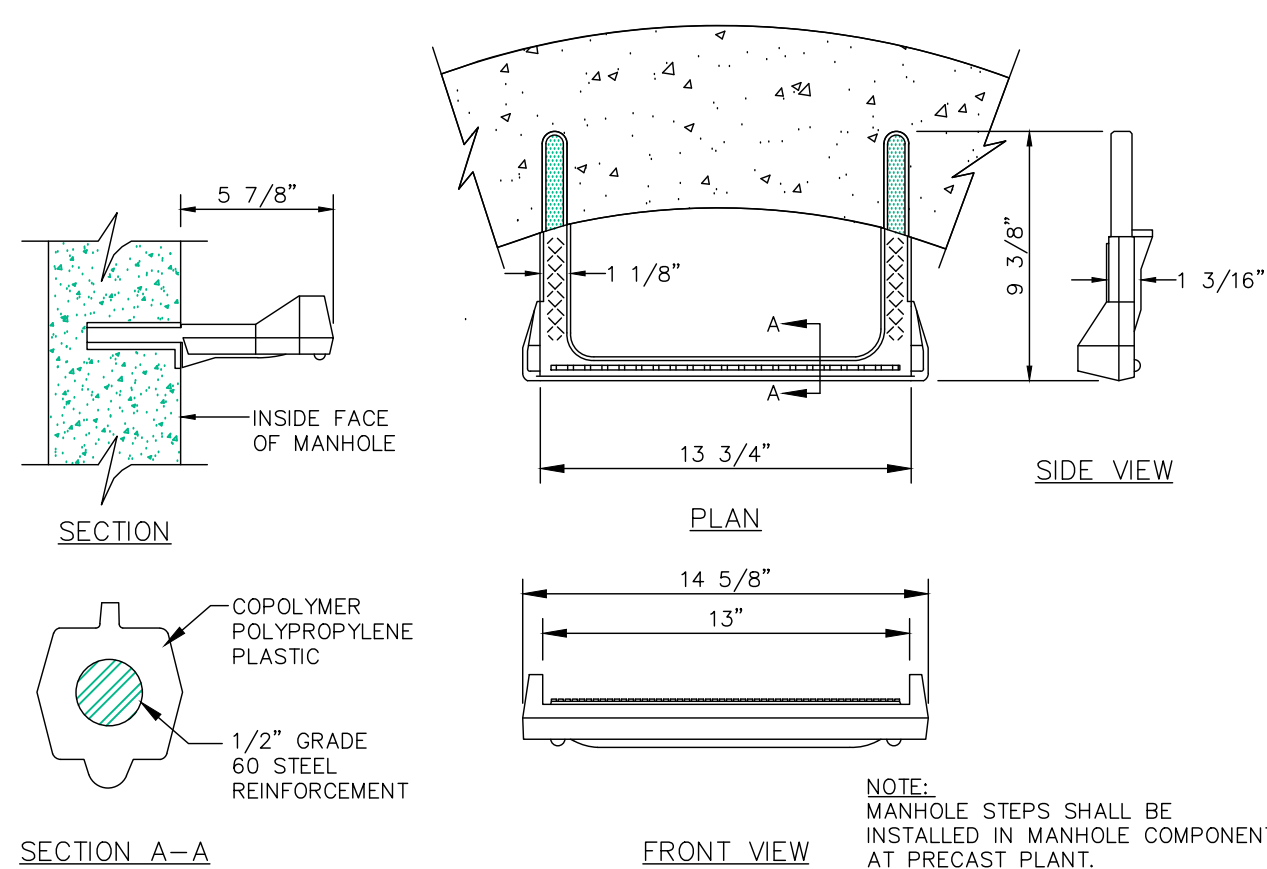
NO SCALE

1. EACH DRAIN WILL BE TESTED FOR DRAINAGE.



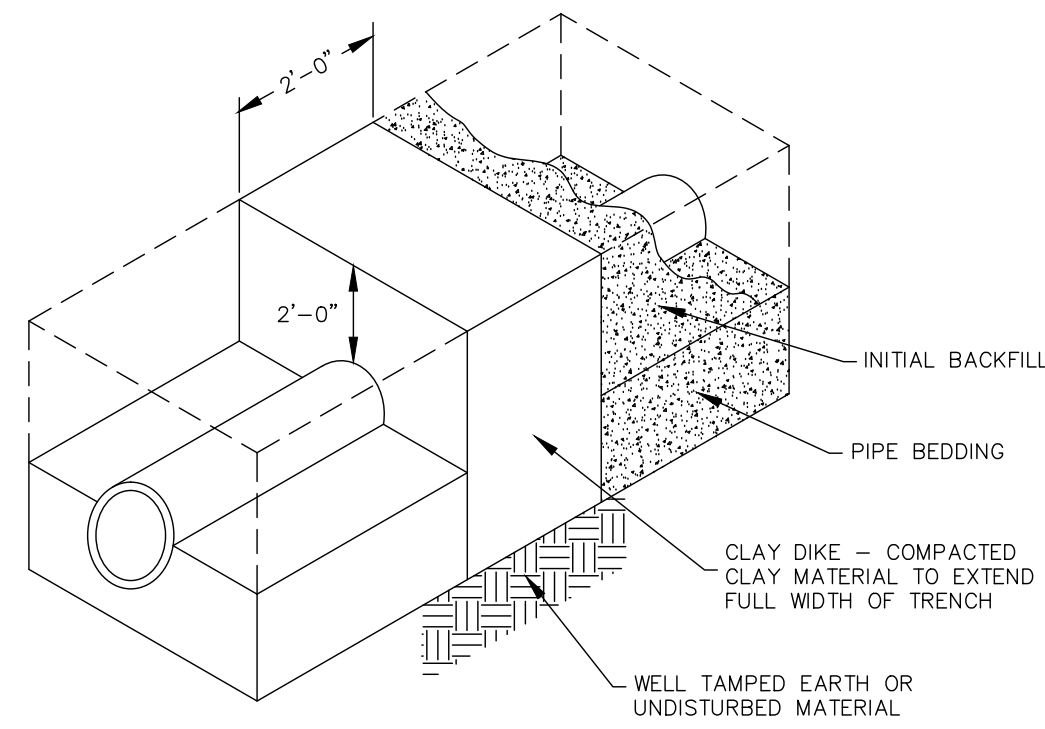
CLEANOUTS IN PAVED AREA DETAIL

NO SCALE



MANHOLE STEPS DETAIL

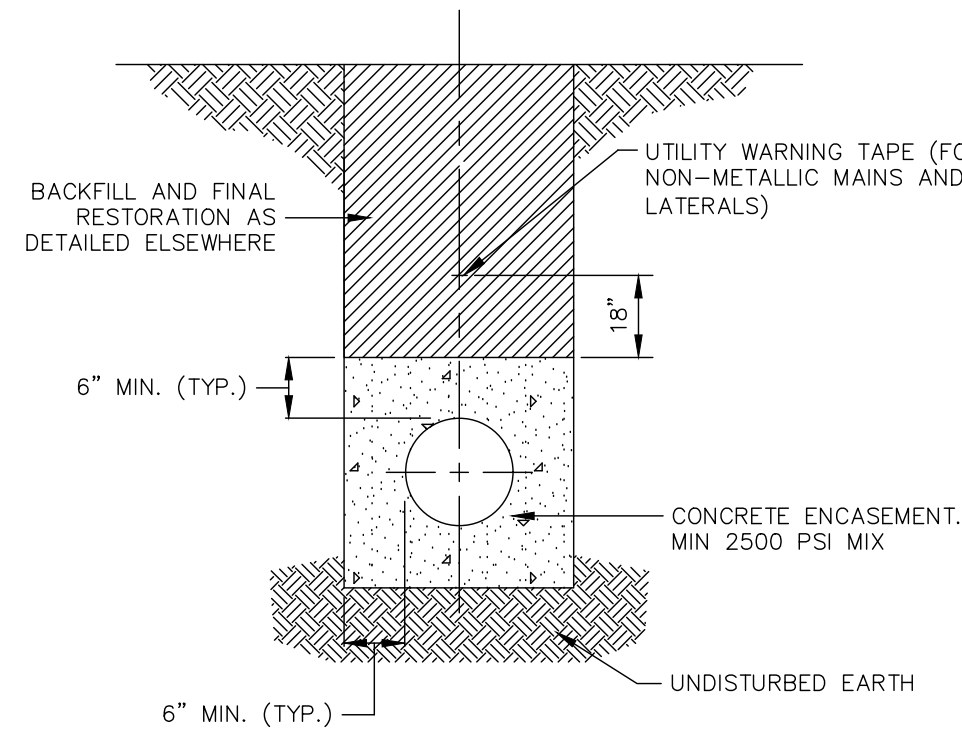
NO SCALE



CLAY DIKE (TRENCH PLUG) DETAIL

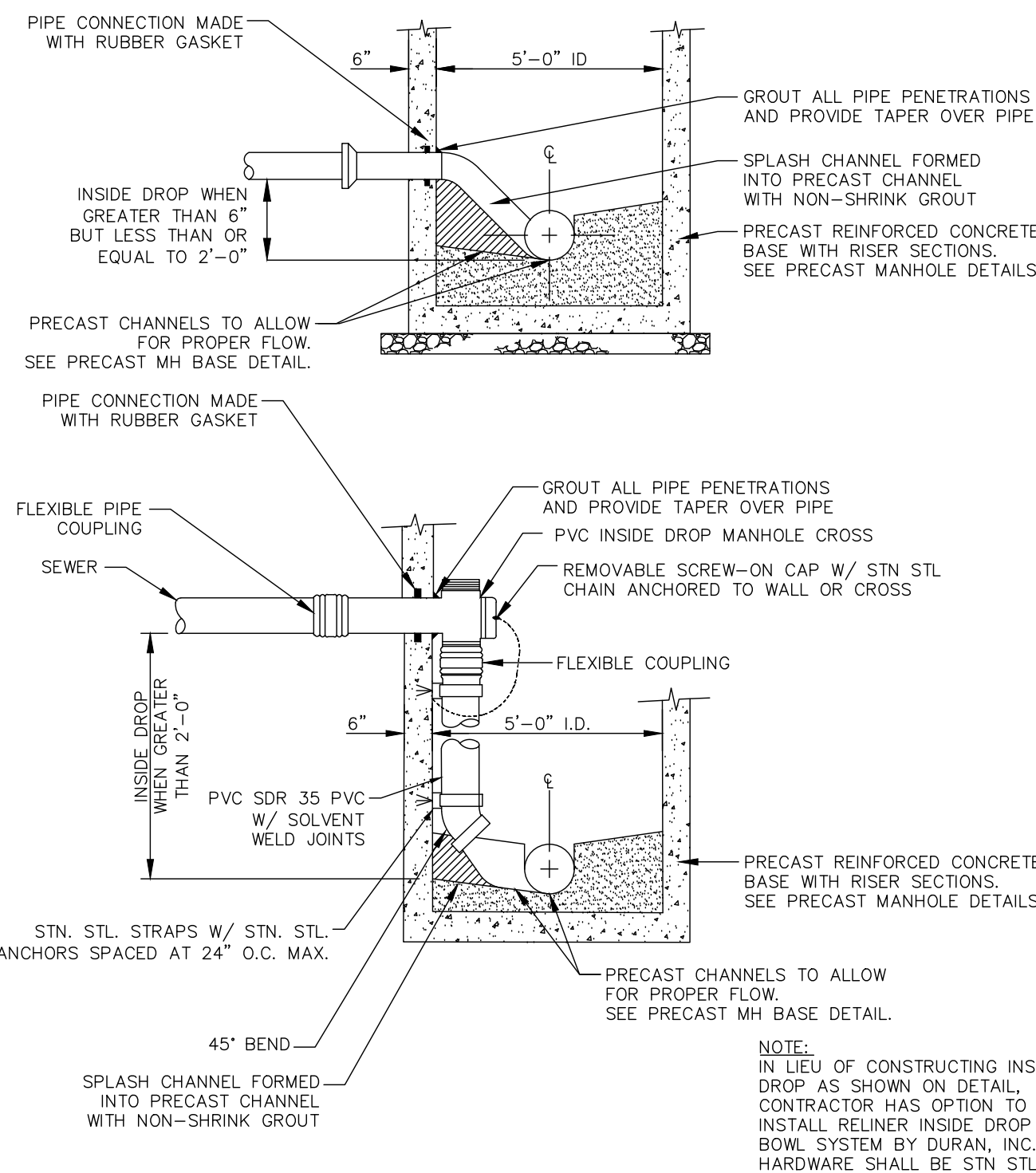
NO SCALE

1. CLAY DIKE SHALL CONSIST OF CLAY CONTAINING NO MORE THAN 15% (BY VOLUME) STONE NO LARGER THAN TWO (2) INCHES IN DIAMETER. CLAY SHALL BE PLACED IN SIX (6) INCH LIFTS AND COMPACTED BY MECHANICAL TAMPER TO NOT LESS THAN 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT.
2. CLAY DIKE SHALL BE INSTALLED EVERY 200 FEET.



CONCRETE ENCASEMENT DETAIL

NO SCALE



INSIDE DROP / SPLASH MANHOLE DETAIL

NO SCALE

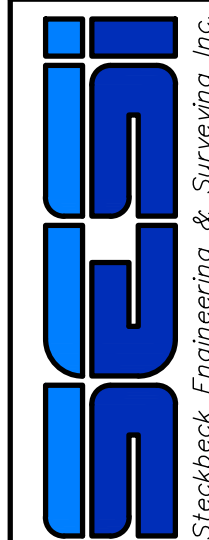
SANITARY SEWER DETAILS

FINAL - PHASE 1

SUBDIVISION & LAND DEVELOPMENT PLAN

THE ESTATES AT HEARTHSTONE

located in
NORTH LEBANON TOWNSHIP
LEBANON County, Pennsylvania



Steadbeck Engineering & Surveying, Inc.
279 Lebanon Road, Suite A
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: 6/19/24

SCALE: AS NOTED

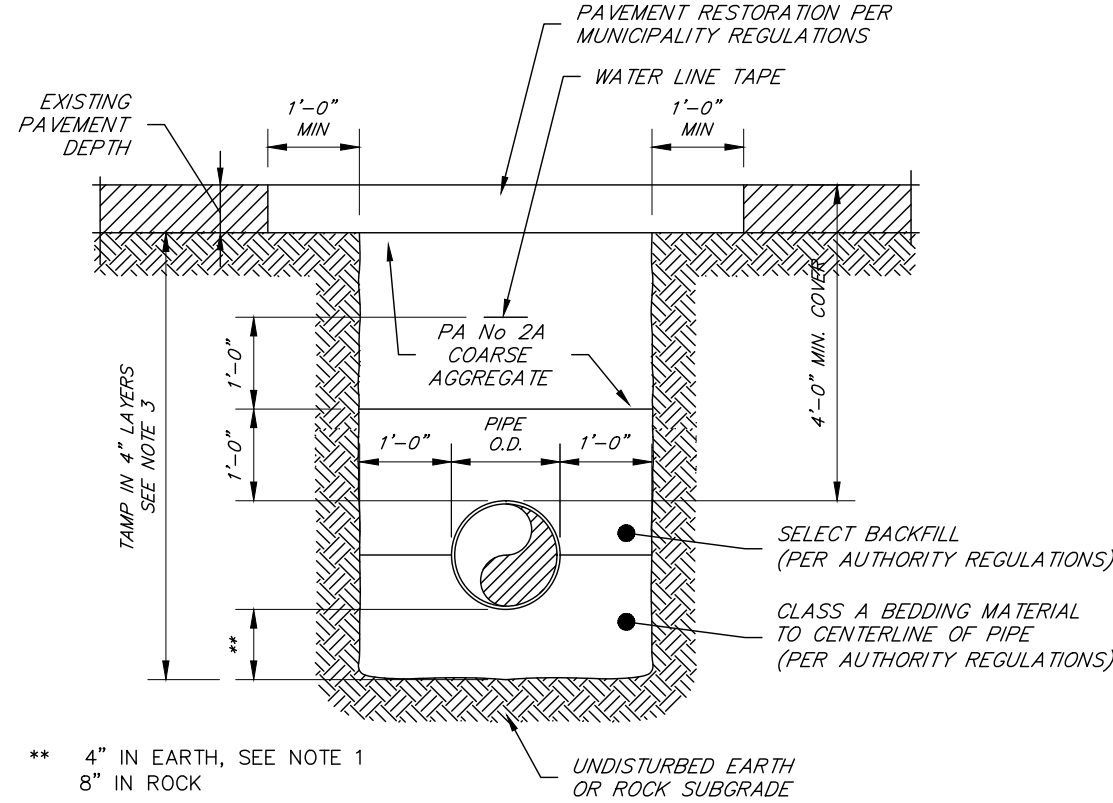
PROJECT #784-24-001

27

27 OF 33 SHEETS

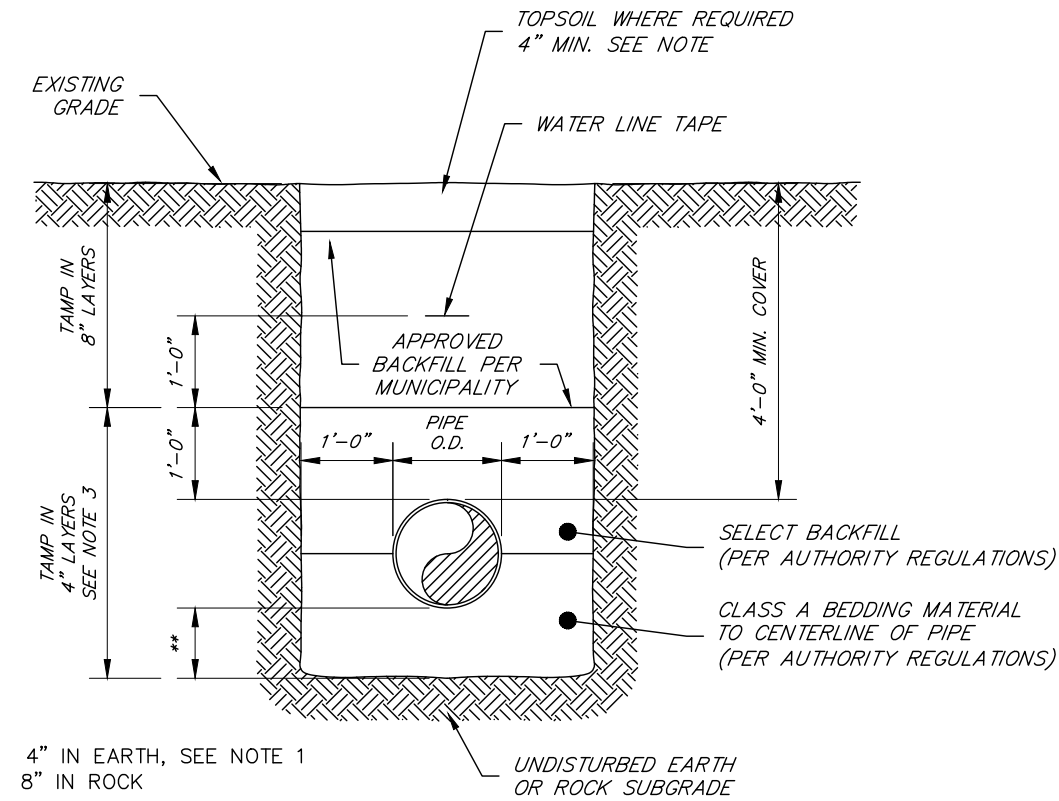
TRENCH NOTES

1. 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.
2. BOTTOM OF TRENCH SHALL BE FREE OF WATER PRIOR TO WATER MAIN INSTALLATION.
3. IF VIBRATORY COMPACTION EQUIPMENT IS USED BACKFILL MAY BE IN 8" LAYERS.
4. PROVIDE 4" OF TOPSOIL WHERE SEEDING IS REQUIRED. SEE NOTE 6 AT GRAVEL DRIVEWAYS.
5. CONTRACTOR SHALL SHORE THE TRENCH IN ACCORDANCE WITH SECTION 02151 OF THE SPECIFICATIONS.
6. GRAVEL AND PAVED DRIVEWAYS TO BE RESTORED IN KIND.
7. 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.
8. ALL PAVING RESTORATION TO BE IN ACCORDANCE WITH PennDOT PUBLICATION 408/2003 AND PUBLICATION 72M.



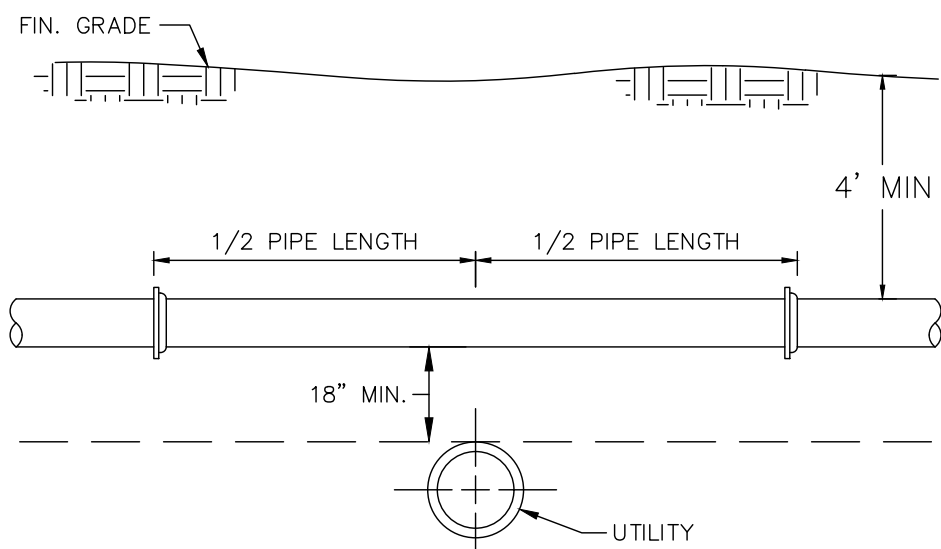
TYPICAL TRENCH DETAIL - PAVED AREAS

NO SCALE



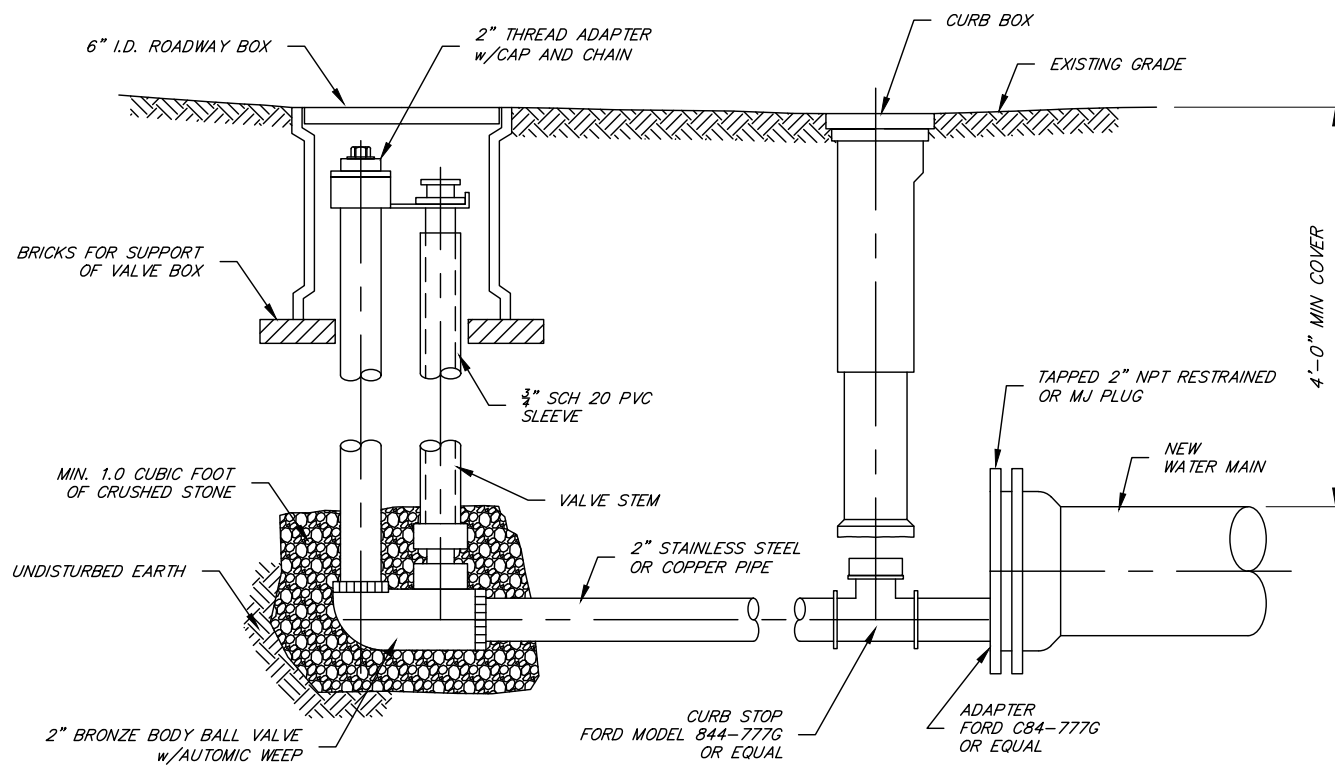
TYPICAL TRENCH DETAIL - UNPAVED AREAS

NO SCALE



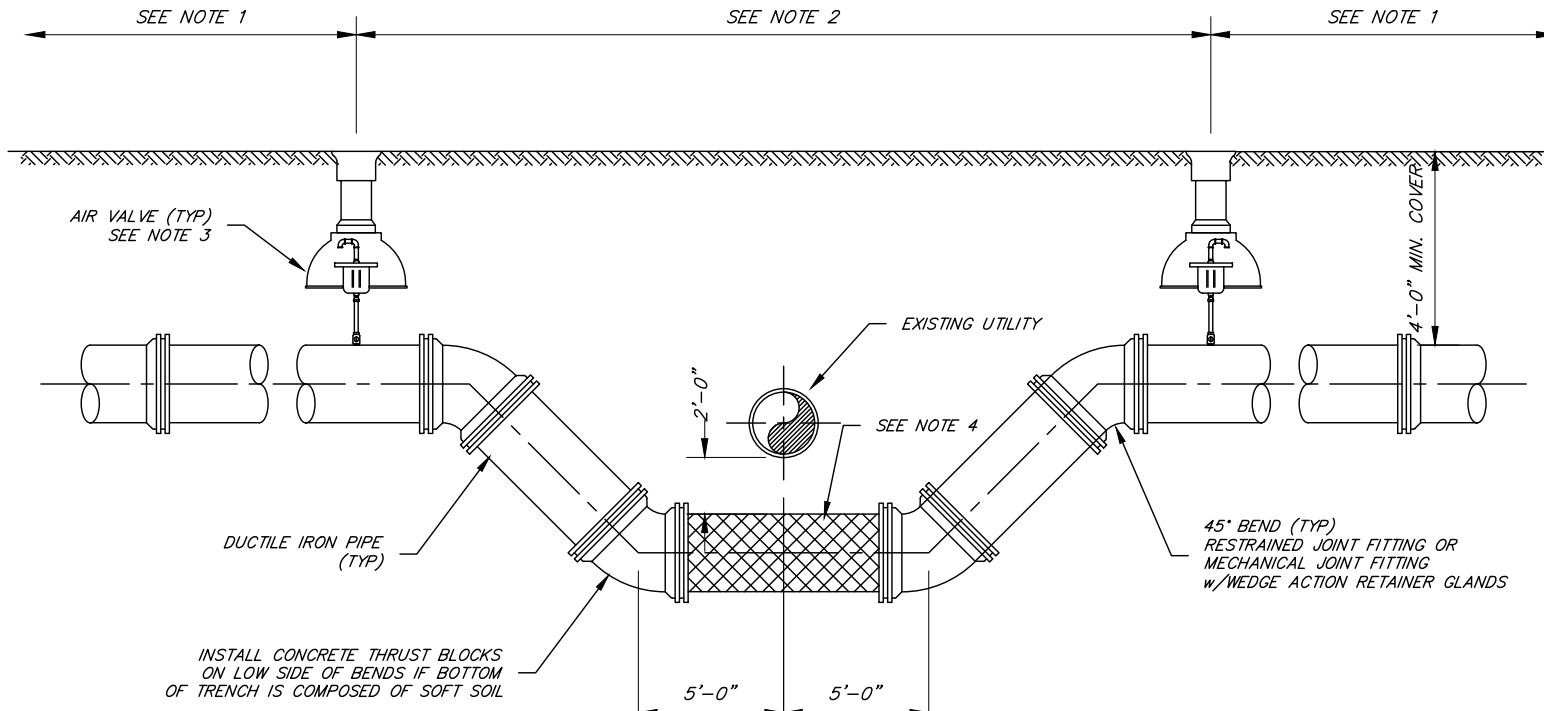
WATER MAIN UTILITY CROSSING DETAIL

NO SCALE



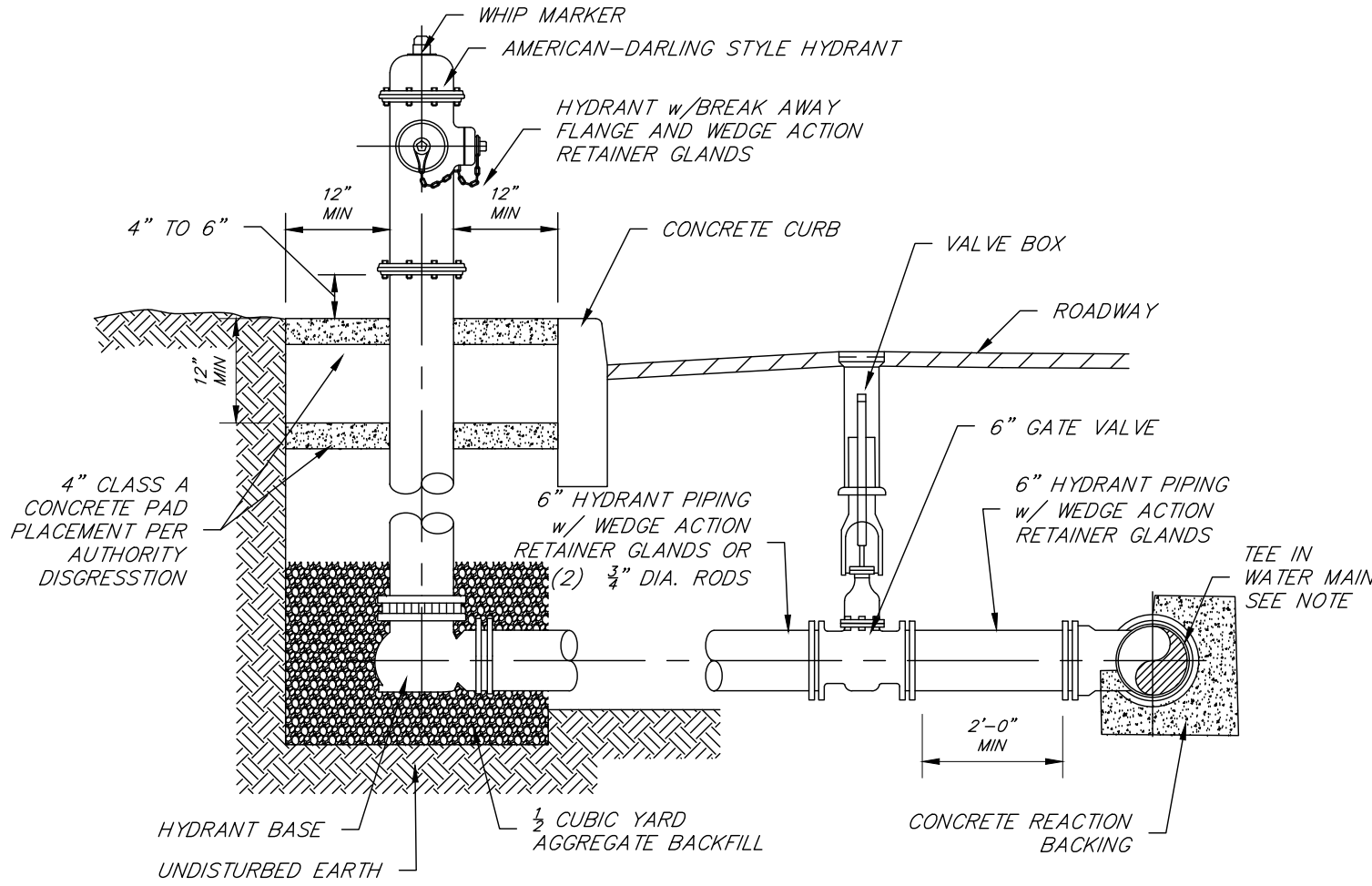
2" BLOW OFF HYDRANT DETAILS

NO SCALE



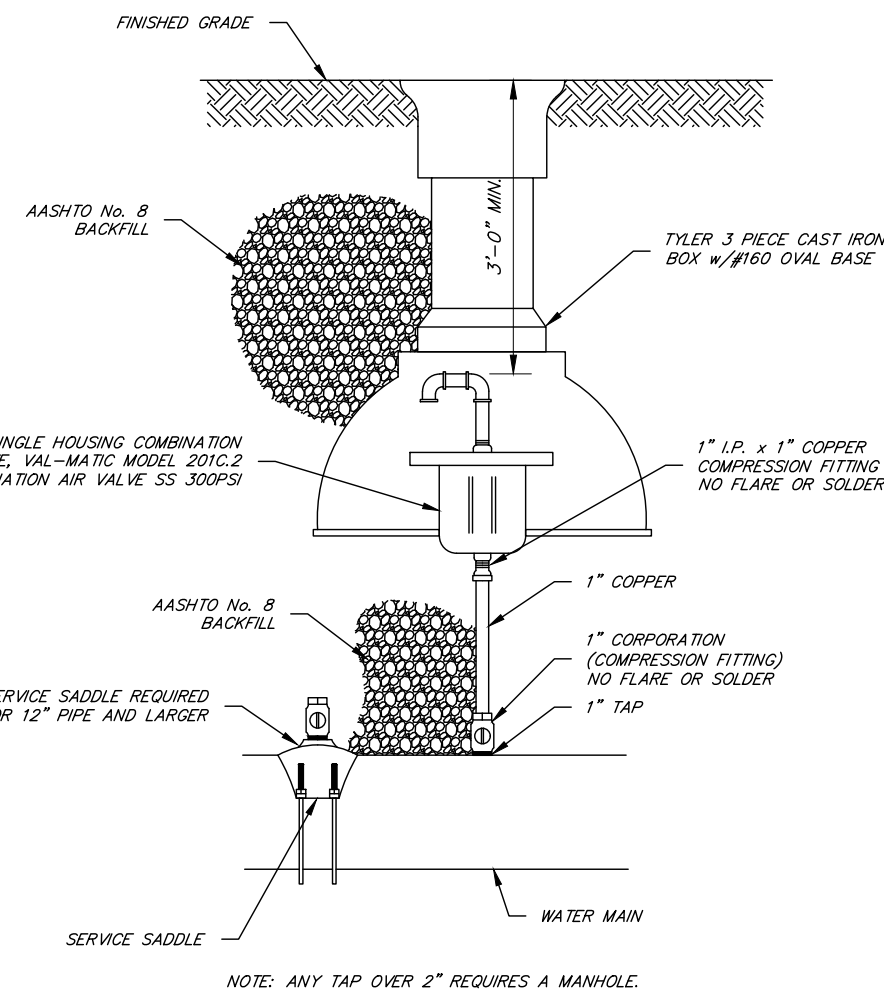
UTILITY CROSSING VERTICAL OFFSET DETAIL

NO SCALE



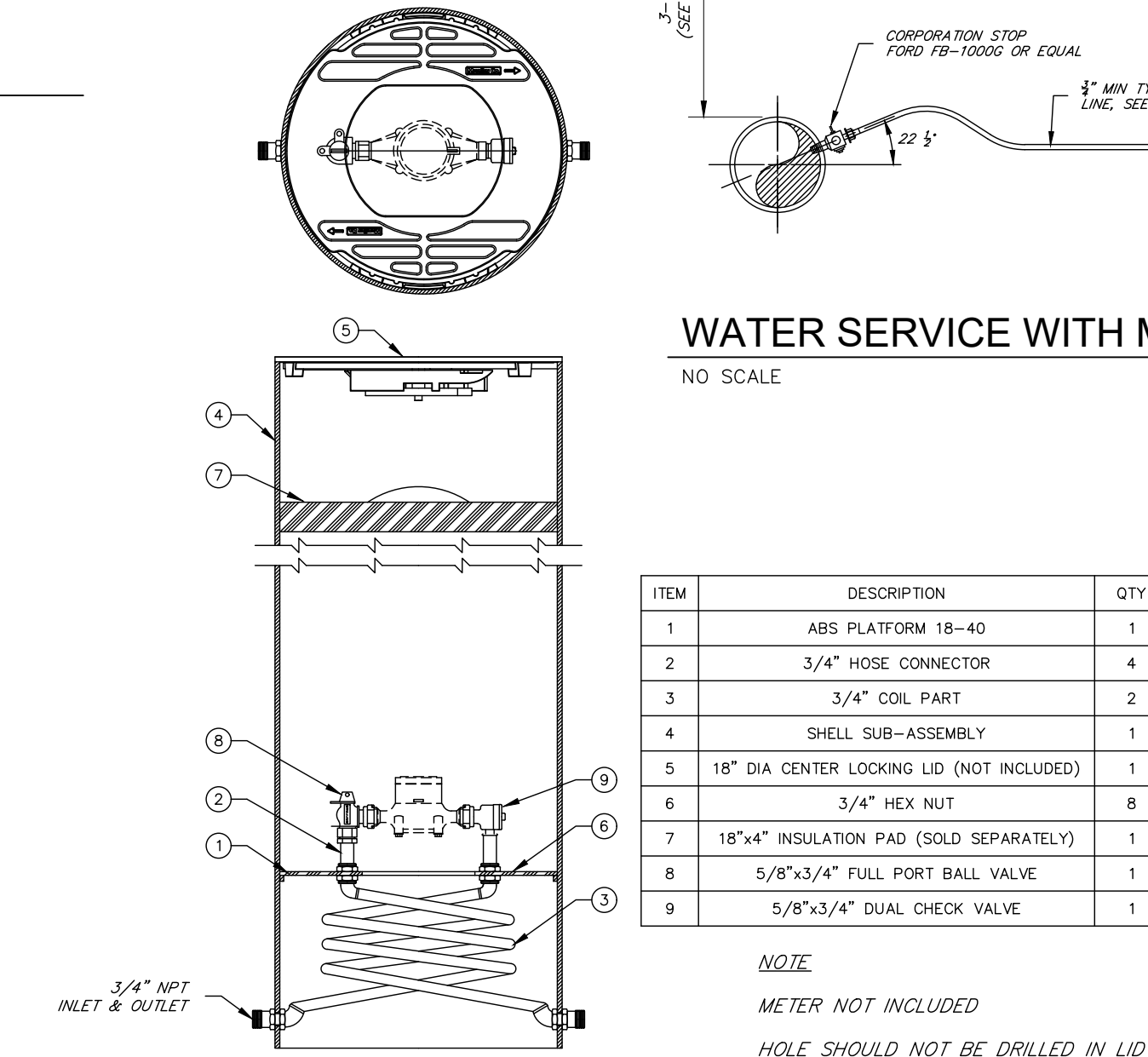
HYDRANT AT CURB DETAIL

NO SCALE



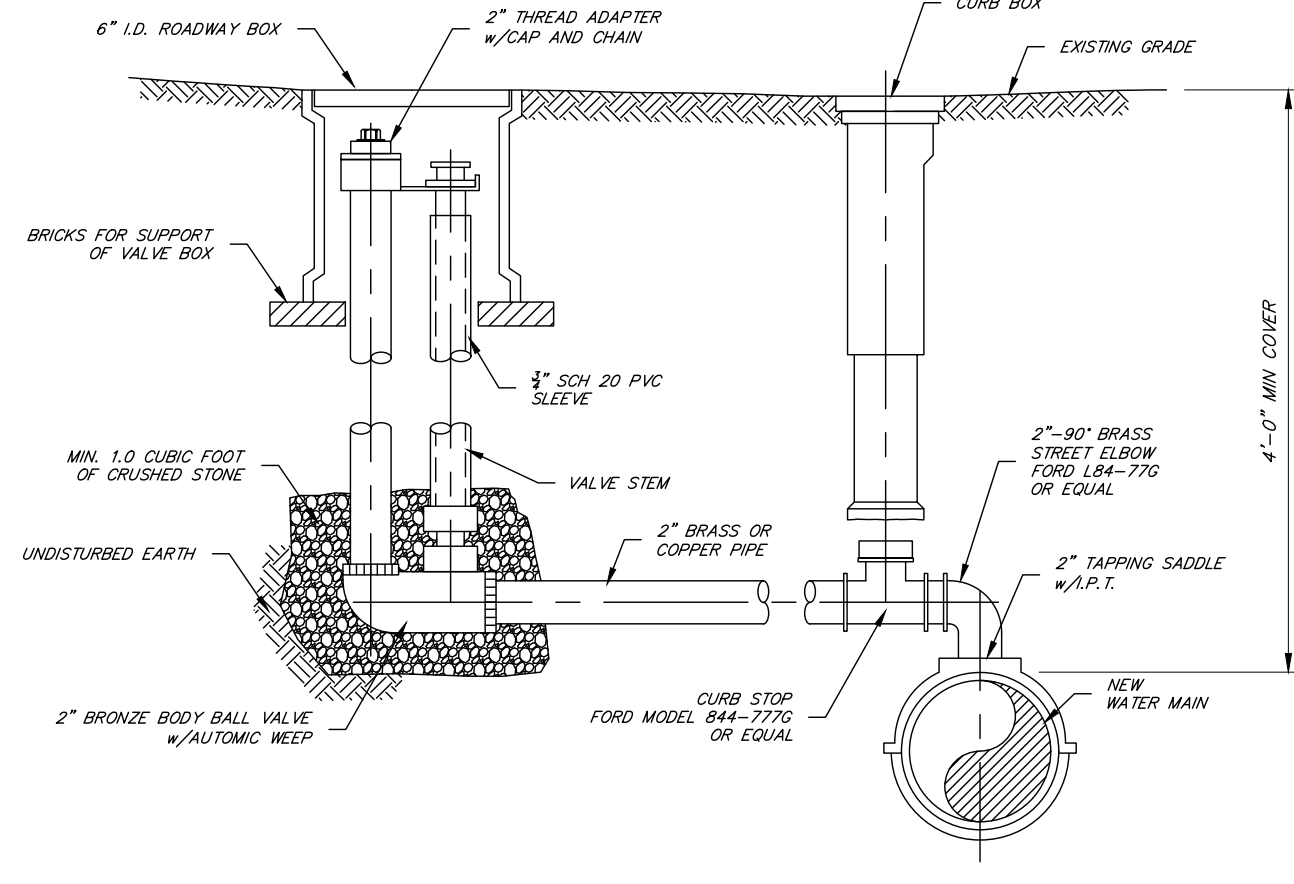
AIR RELEASE VALVE DETAIL

NO SCALE



MUELLER THERMAL COIL METER DETAIL

NO SCALE



CONCRETE CRADLE AND BRIDGE DETAIL

NO SCALE

NOTES:

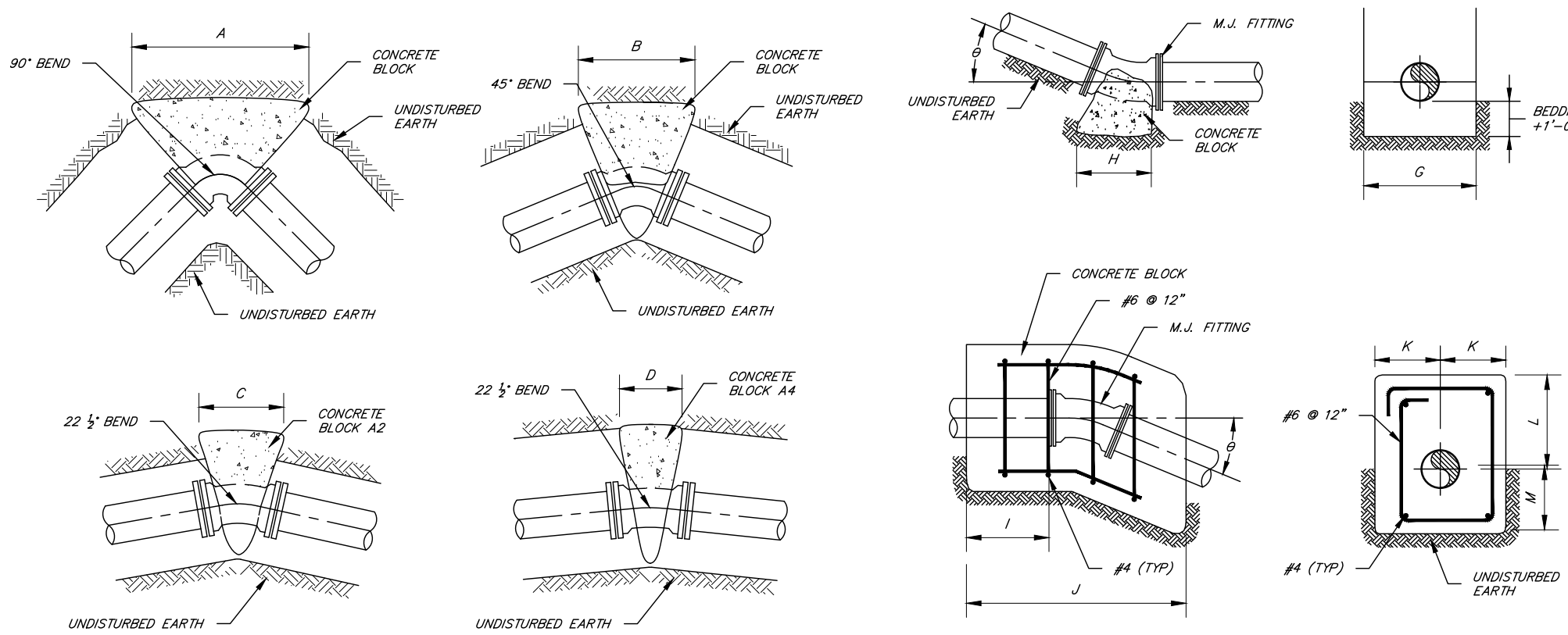
1. 80 LF OF RESTRAINED JOINT PIPE (TYP EACH SIDE) (120 LF IF POLYETHYLENE ENCASED OR PVC PIPE) UP TO AND INCLUDING 12" DIAMETER PIPE.
2. ALL PIPE JOINTS BETWEEN BENDS MUST BE RESTRAINED. ALTERNATE RESTRAINING METHODS MAY BE USED WITH APPROVAL BY THE CITY OF LEBANON AUTHORITY.
3. INSTALL AIR VALVE PER STANDARD DETAILS UNLESS OTHERWISE DIRECTED BY THE AUTHORITY.
4. INSTALL WATER MAIN UNDER STORMWATER PIPES.

NOTES:

1. REACTION BACKING DIMENSIONS HAVE BEEN CALCULATED USING A SOIL BEARING CAPACITY OF 2000 POUNDS PER SQUARE FOOT AND TEST PRESSURES AS NEEDED.
2. ALL FITTINGS SHALL BE MECHANICAL JOINT AND HAVE WEDGE ACTION FOLLOWER GLANDS INSTALLED TO MANUFACTURERS SPECIFICATIONS, EXCEPT IN RESTRAINED JOINT AREAS.
3. ALL CONCRETE SHALL BE HIGH EARLY STRENGTH.
4. 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)	A	B	C	D	E	F	G	H	I	J	K	L	M
24	150	11'-0"	6'-0"	3'-0"	1'-8"	8'-0"	5'-0"	4'-0"	7'-6"	3'-9"	2'-0"	9'-0"	4'-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"
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	150	5'-0"	2'-8"	1'-3"	1'-0"	3'-6"	3'-0"	3'-0"	2'-8"	1'-4"	1'-0"	5'-6"	1'-8"	0'-9"
10	150	4'-3"	2'-6"	1'-6"	1'-0"	3'-0"	2'-6"	2'-10"	2'-2"	1'-2"	1'-0"	5'-6"	1'-8"	0'-9"
8	150	3'-6"	2'-0"	1'-0"	1'-0"	2'-6"	2'-0"	2'-8"	1'-6"	1'-0"	1'-0"	5'-6"	1'-8"	0'-9"
6	150	2'-8"	1'-6"	1'-0"	1'-0"	2'-0"	1'-6"	2'-6"	1'-0"	1'-0"	1'-0"	5'-6"	1'-8"	0'-9"
4	150	2'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	2'-4"	1'-0"	1'-0"	1'-0"	5'-6"	1'-8"	0'-9"

NOTES:

1. REPLACE EXISTING WATER SERVICE LINES WITH MINIMUM 3/4" COPPER, IF EXISTING SERVICE IS LARGER DIAMETER, REPLACE WITH SAME SIZE.
2. CURB STOP LOCATION NO MORE THAN 1'-0" BEHIND CURB.
3. WATER LINE TAPE TO BE INSTALLED 1'-6" TO 2'-0" ABOVE PIPE.
4. IF MAIN DEPTH CAN NOT BE MAINTAINED TUBE INSULATION TO BE INSTALLED ON SERVICE LINE.
5. NEW SERVICE LINES - FROM CORPORATION TO CURB STOP, INCLUDING NEW CURB BOX.
6. SERVICE LINES TO BE INSULATED WHEN 18" OF SEPARATION CANNOT BE MAINTAINED.
7. ANY METER PITS REQUIRED FOR SERVICE LINES WILL BE AT THE AUTHORITY'S DISCRETION.
8. REFER TO METER PIT DETAILS FOR ADDITIONAL INFORMATION.

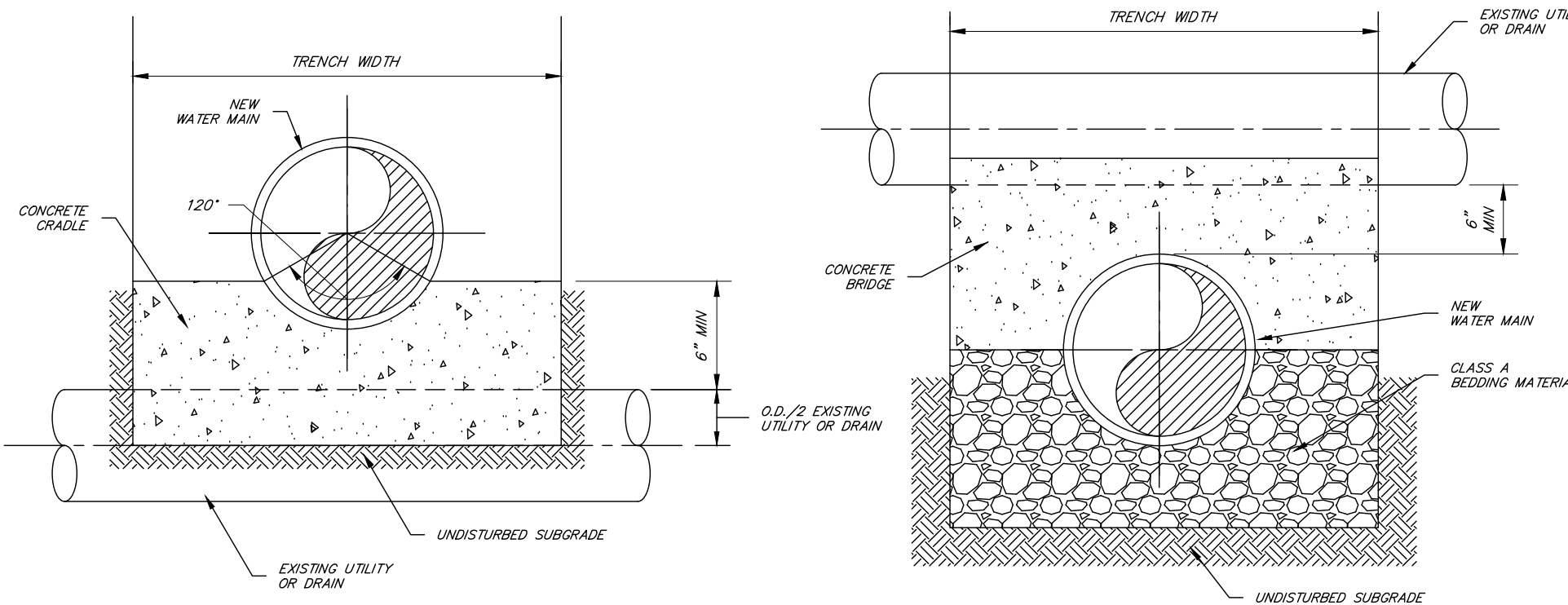
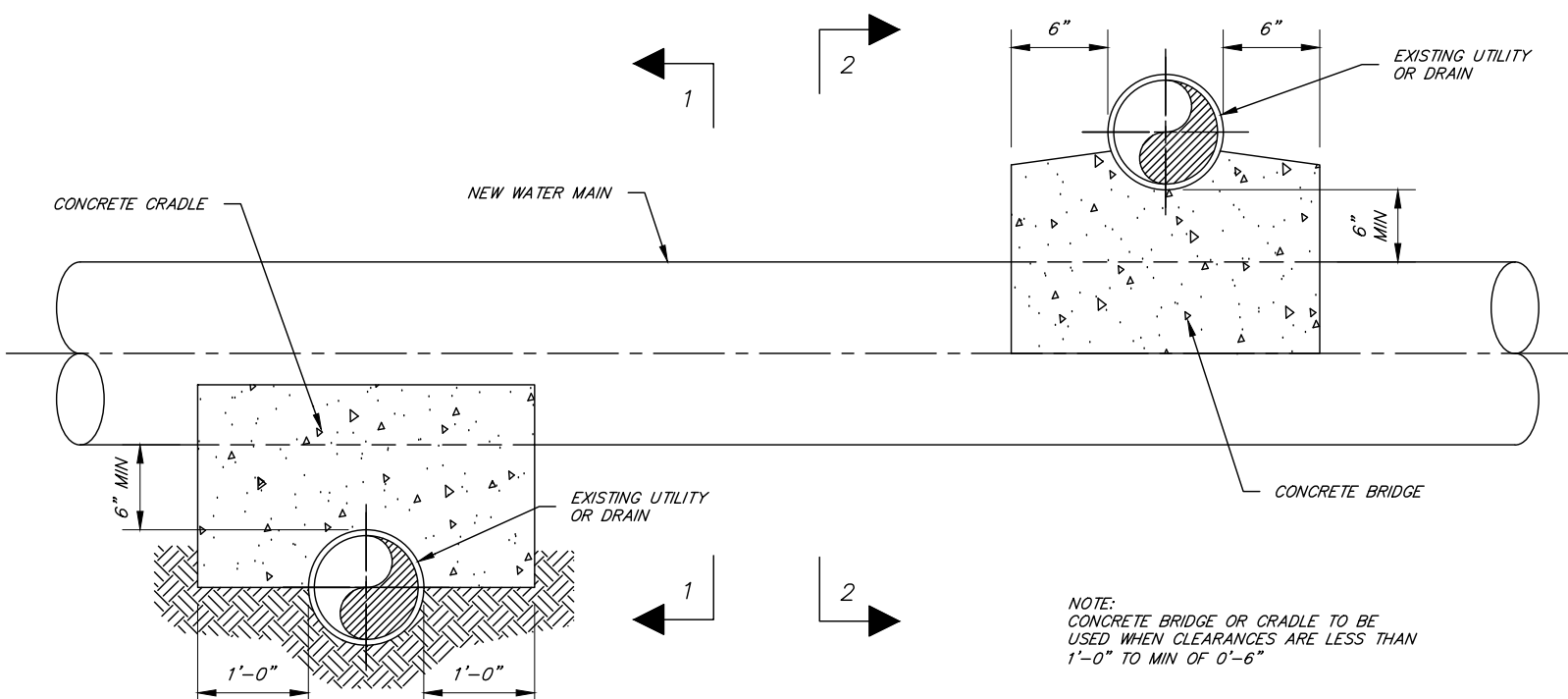
WATER SERVICE WITH METER PIT CONNECTION DETAIL

NO SCALE

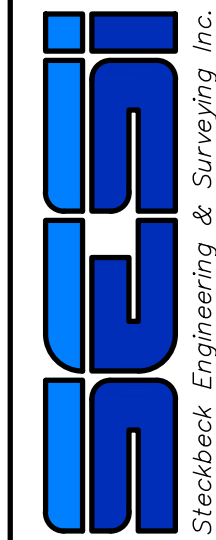
ITEM	DESCRIPTION	QTY
1	ABS PLATFORM 18-40	1
2	3/4" HOSE CONNECTOR	4
3	3/4" COIL PART	2
4	SHELL SUB-ASSEMBLY	1
5	18" DIA CENTER LOCKING LID (NOT INCLUDED)	1
6	3/4" HEX NUT	8
7	18"x4" INSULATION PAD (SOLD SEPARATELY)	1
8	5/8"x3/4" FULL PORT BALL VALVE	1
9	5/8"x3/4" DUAL CHECK VALVE	1

NOTE:

- METER NOT INCLUDED
HOLE SHOULD NOT BE DRILLED IN LID

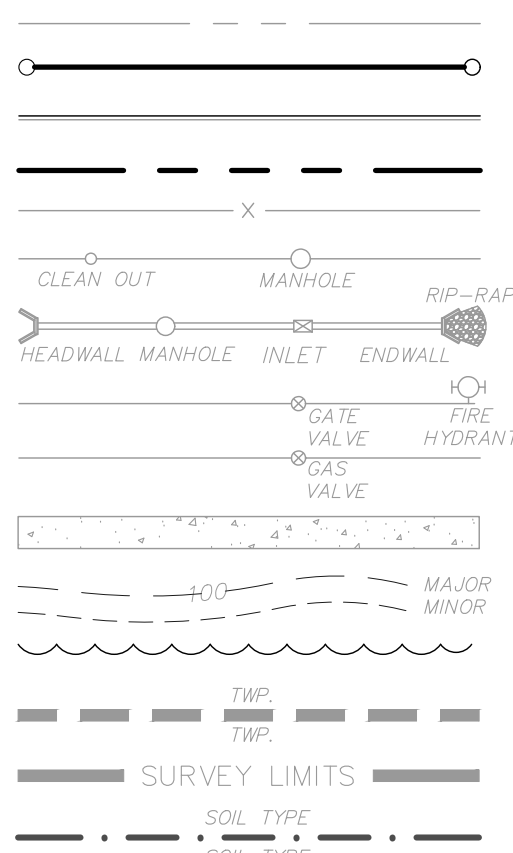


WATER DETAILS
FINAL - PHASE 1
SUBDIVISION & LAND DEVELOPMENT PLAN
THE ESTATES AT HEARTHSTONE



FIELD CREW:	MOD/JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	6/19/24
SCALE:	AS NOTED
PROJECT #	784-24-001

EXISTING FEATURES



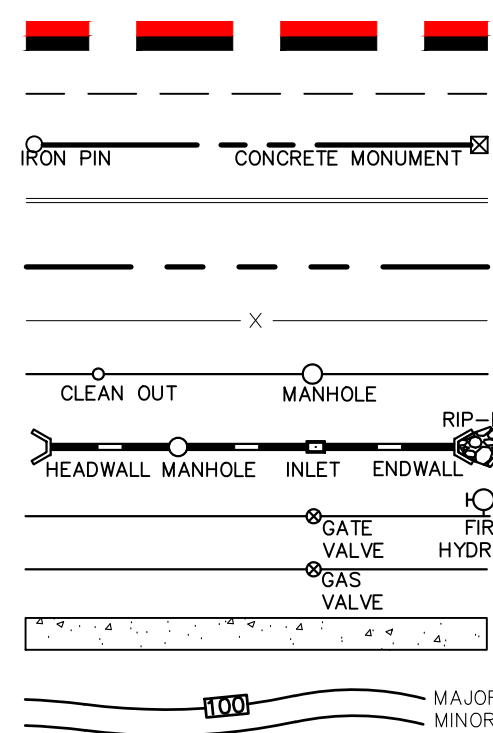
EXISTING ADJOINER LINE
EXISTING BOUNDARY LINE
AND CORNERS
EXISTING EDGE OF PAVEMENT
AND CURB LINE
EXISTING RIGHT-OF-WAY
EXISTING FENCE
EXISTING SEWER

EXISTING STORMWATER

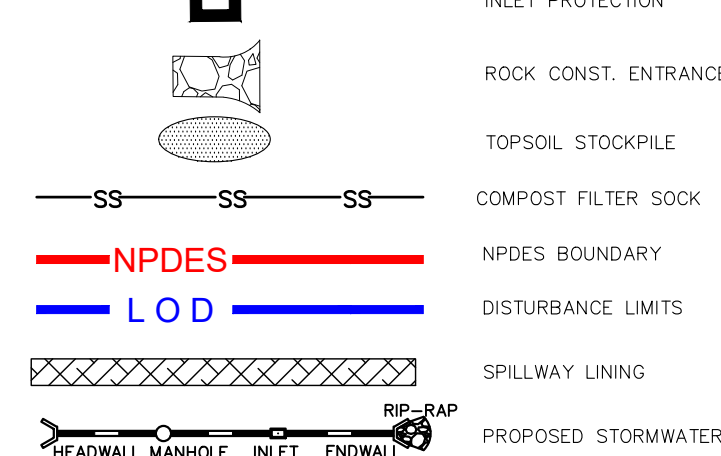
EXISTING WATERLINE

EXISTING GASLINE

EXISTING SIDEWALK/CONCRETE
EXISTING CONTOURS
EXISTING TREES
EXISTING TOWNSHIP BOUNDARY
LIMITS OF FIELD SURVEY
EXISTING SOILS
EXISTING UTILITY POLE
EXISTING LIGHT POLE



PROPOSED LIMIT OF PHASE
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

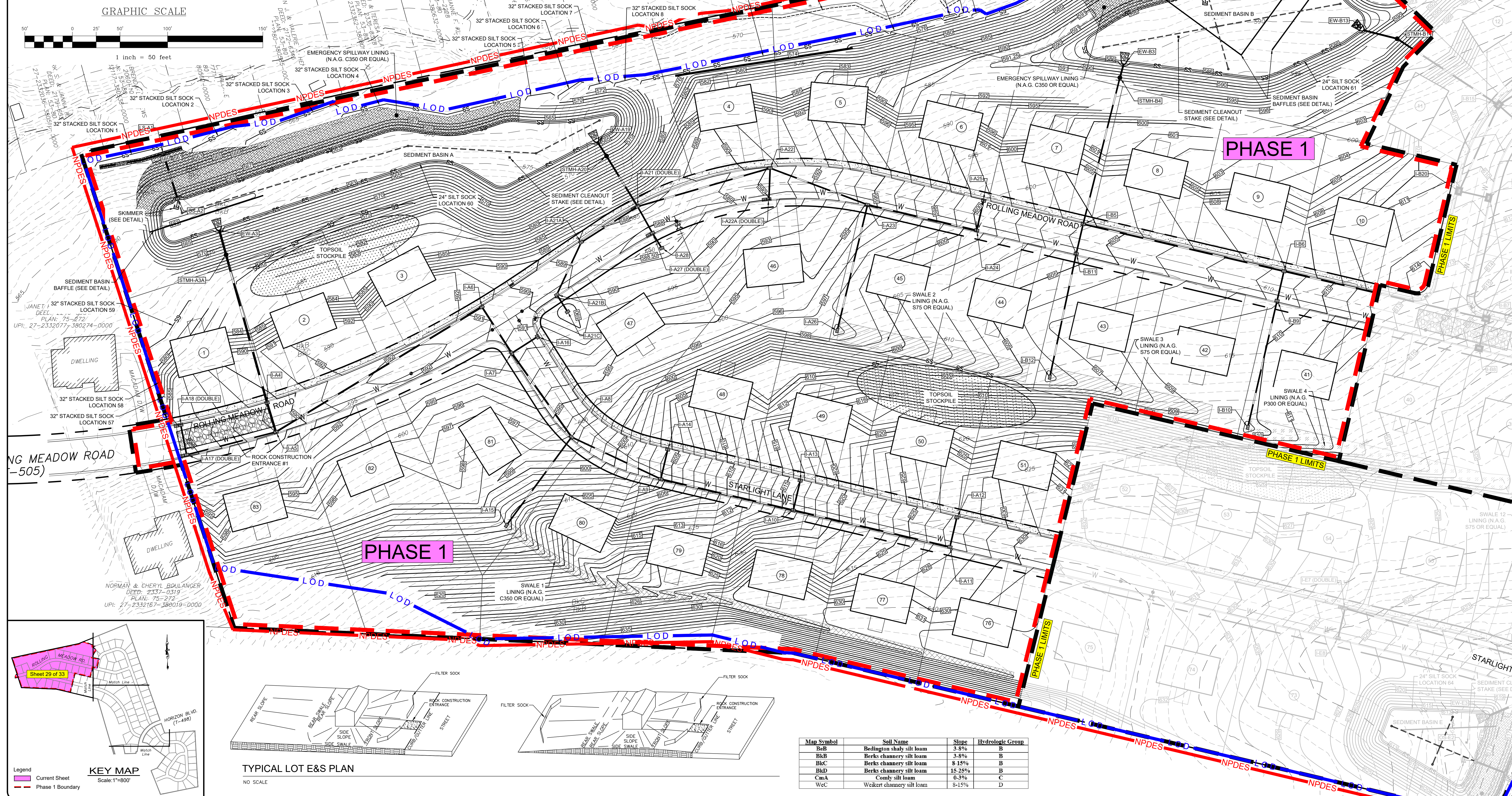


INLET PROTECTION
ROCK CONST. ENTRANCE
TOPSOIL STOCKPILE
COMPOST FILTER SOCK
NPDES BOUNDARY
DISTURBANCE LIMITS
SPILLWAY LINING
PROPOSED STORMWATER

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.



Map Symbol	Soil Name	Slope	Hydrologic Group
BeB	Bedington shaly silt loam	3-8%	B
BkB	Berks channery silt loam	3-8%	B
BkC	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

EROSION & SEDIMENTATION POLLUTION CONTROL PLAN

1

SE 1

FINAL - PHA

1100

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PROJECT

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SEQUENCE OF CONSTRUCTION – PHASE 3

1. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE CONTRACTOR SHALL INVITE 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 PERIMETER SILT SOOK ON THE SITE AT LOCATIONS 37-42 AND 49-50 AS INDICATED ON THE ATTACHED PLAN. SILT SOOK IS TO BE INSTALLED ALONG THE CONTOUR WHERE POSSIBLE, AT A LEVEL GRADE. THE SILT SOOK 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 SOOK SHALL BE REMOVED IN ORDER TO RESTORE THE SEDIMENT STORAGE CAPACITY OF THESE AREAS. IN THE CASE OF A FAILURE OF THE SILT SOOK DUE TO HIGH FLOWS, A NEW SECTION OF SILT SOOK SHALL BE INSTALLED ACROSS THE FAILED PORTION OF THE SILT SOOK. AT NO POINT SHALL UN-STABILIZED AREA DRAIN OFFSITE UNCONTROLLED. THE SILT SOOK 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 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."
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 DESIGNEE 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&SPC 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. 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.

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. SEEDED 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 SOOK 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 DESIGNEE 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 INVITE 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 PERIMETER SILT SOOK ON THE SITE AT LOCATIONS 31-37 AND 50-56 AS INDICATED ON THE ATTACHED PLAN. SILT SOOK IS TO BE INSTALLED ALONG THE CONTOUR WHERE POSSIBLE, AT A LEVEL GRADE. THE SILT SOOK 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 SOOK SHALL BE REMOVED IN ORDER TO RESTORE THE SEDIMENT STORAGE CAPACITY OF THESE AREAS. IN THE CASE OF A FAILURE OF THE SILT SOOK DUE TO HIGH FLOWS, A NEW SECTION OF SILT SOOK SHALL BE INSTALLED ACROSS THE FAILED PORTION OF THE SILT SOOK. AT NO POINT SHALL UN-STABILIZED AREA DRAIN OFFSITE UNCONTROLLED. THE SILT SOOK 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 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."

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

15. 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. SEEDED 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 SOOK 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 DESIGNEE 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 INVITE 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 PERIMETER SILT SOOK ON THE SITE AT LOCATIONS 44-48 AS INDICATED ON THE ATTACHED PLAN. SILT SOOK IS TO BE INSTALLED ALONG THE CONTOUR WHERE POSSIBLE, AT A LEVEL GRADE. THE SILT SOOK 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 SOOK SHALL BE REMOVED IN ORDER TO RESTORE THE SEDIMENT STORAGE CAPACITY OF THESE AREAS. IN THE CASE OF A FAILURE OF THE SILT SOOK DUE TO HIGH FLOWS, A NEW SECTION OF SILT SOOK SHALL BE INSTALLED ACROSS THE FAILED PORTION OF THE SILT SOOK. AT NO POINT SHALL UN-STABILIZED AREA DRAIN OFFSITE UNCONTROLLED. THE SILT SOOK 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 JAY STREET.

9. 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."
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 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 DESIGNEE 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&SPC 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. 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.
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. SEEDED 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.

21. 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 SOOK 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 DESIGNEE SHALL BE PRESENT ONSITE DURING INSTALLATION OF THE UNDERDRAIN SYSTEM, ENGINEERED SOILS, AND FINAL GRADING/SEEDING OF INFILTRATION BASIN G.
22. 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.

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

1. 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.
2. 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."
3. 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.
4. 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.
5. 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).
6. 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.
7. 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."

DATE	BY
8/12/24	CDS
8/12/24	CDS
8/12/24	CDS
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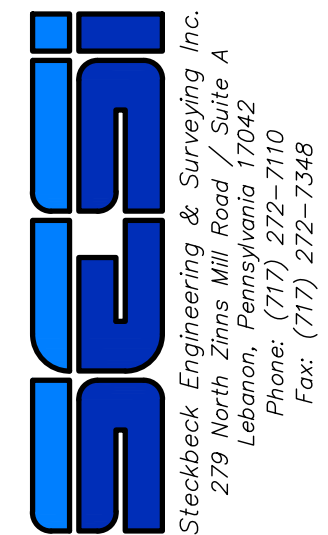
EROSION & SEDIMENTATION POLLUTION CONTROL NOTES

FINAL - PHASE 1

SUBDIVISION & LAND DEVELOPMENT PLAN

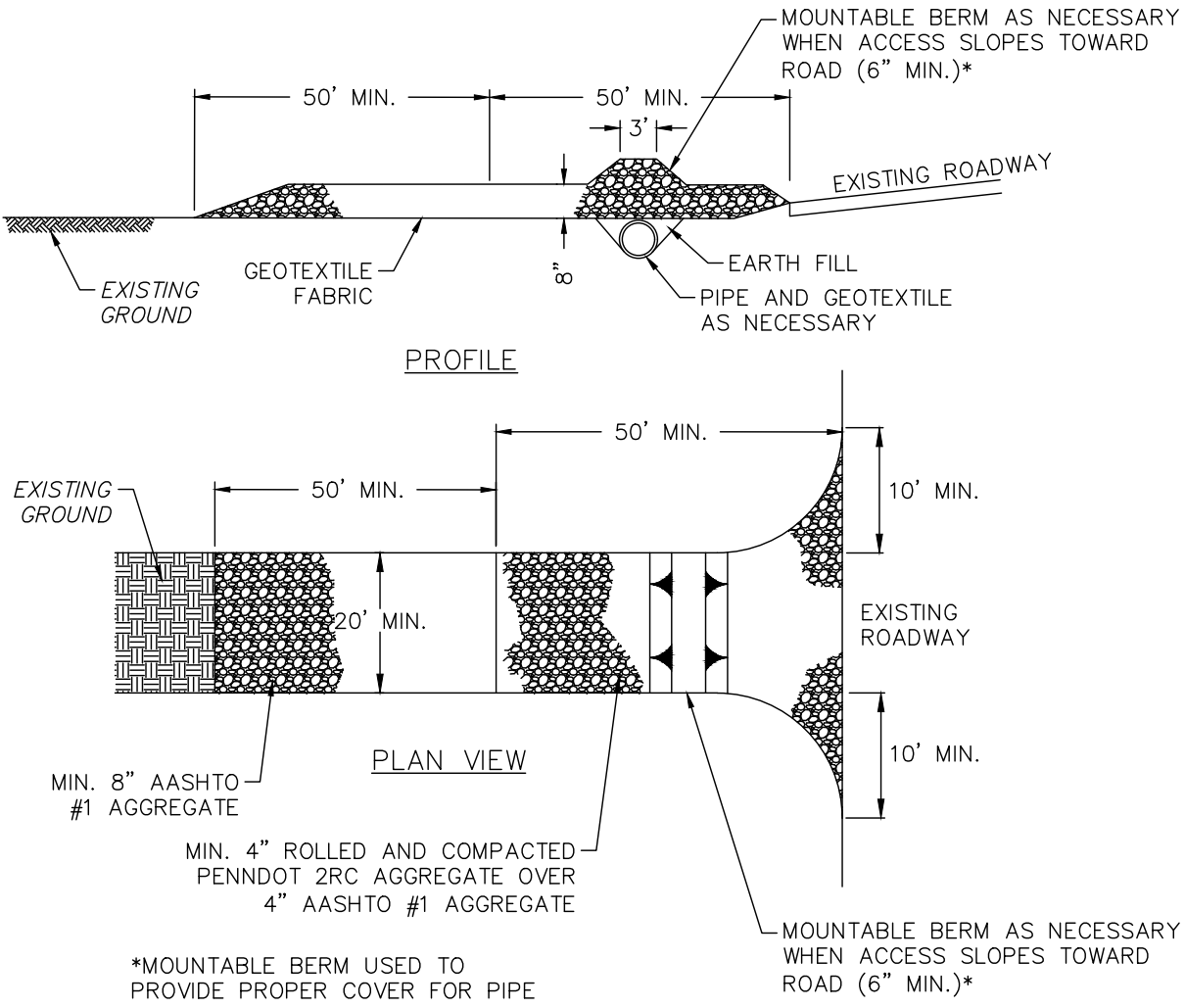
THE ESTATES AT HEARTHSHIDE

located in
NORTH LEBANON TOWNSHIP
Lebanon County, Pennsylvania



FIELD CREW:	MOD,JEC
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	6/19/24
SCALE:	AS NOTED
PROJECT #	#784-24-001

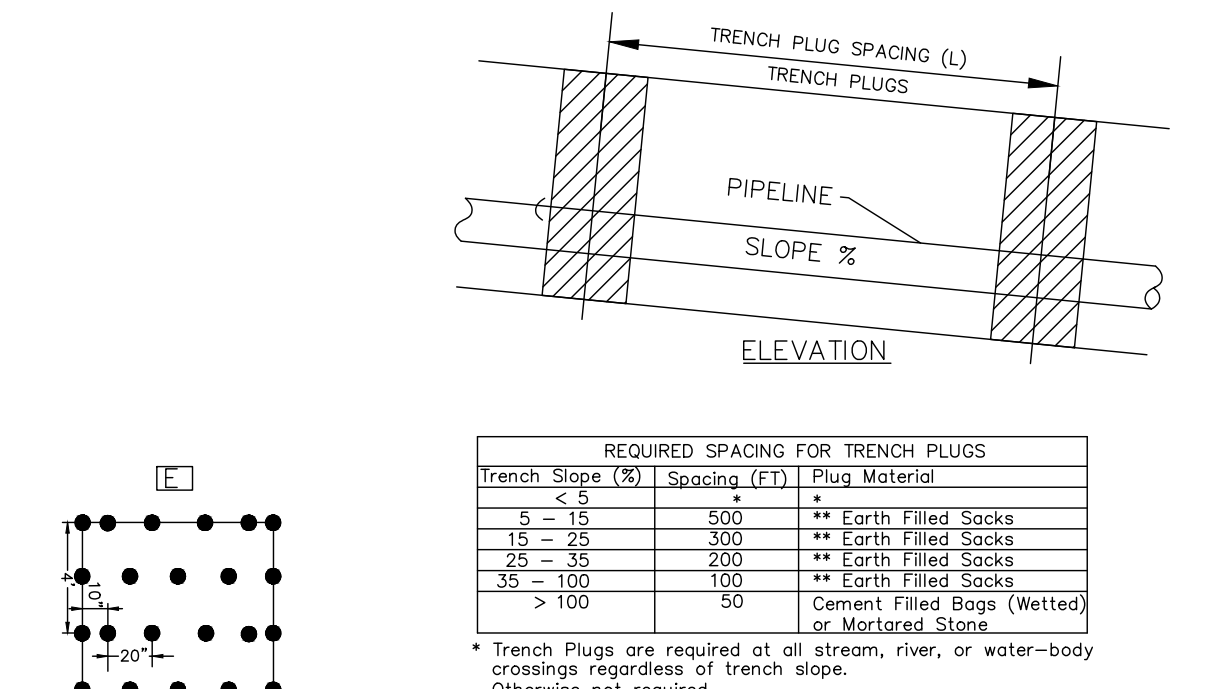
31



- NOTES:
1. REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.
 2. RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.
 3. MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY THE MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.
 4. MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK, WASHING ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

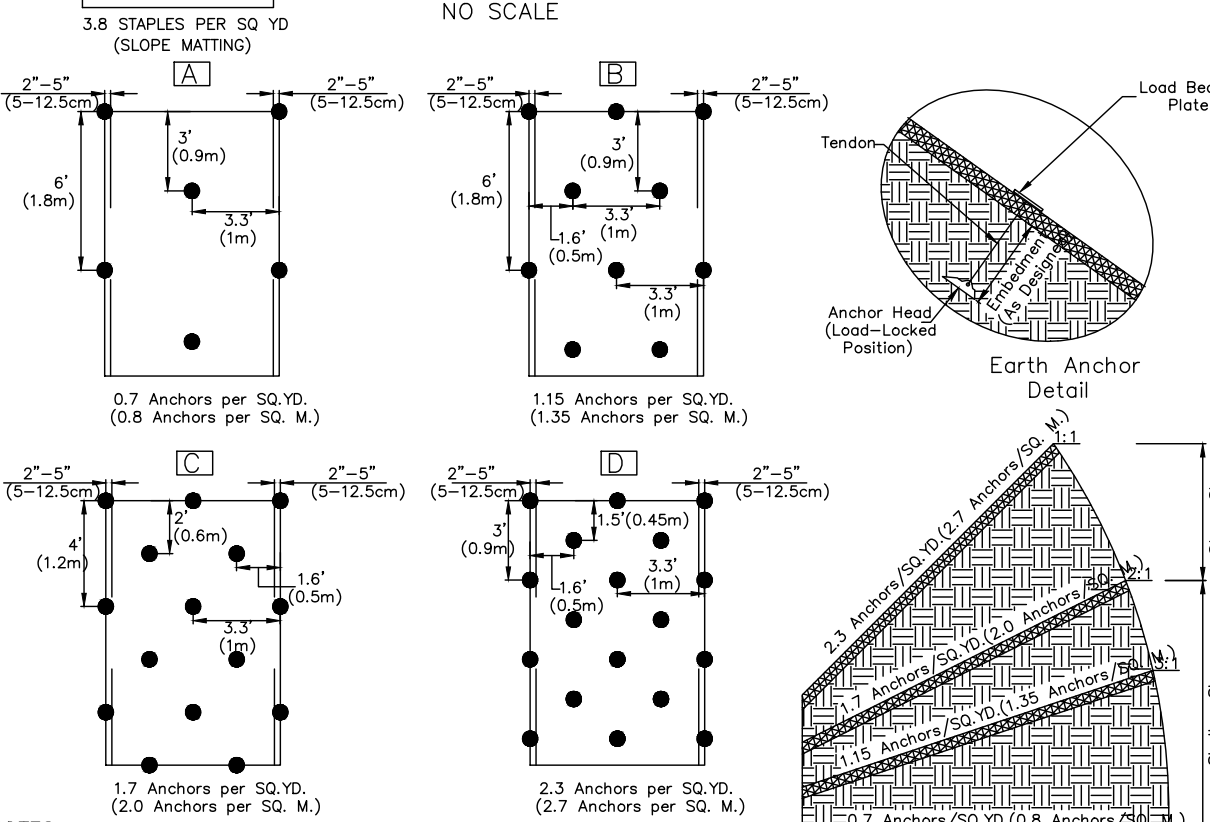
ALTERNATIVE ROCK CONSTRUCTION ENTRANCE

NO SCALE



STORMWATER SWALE DETAIL

NO SCALE



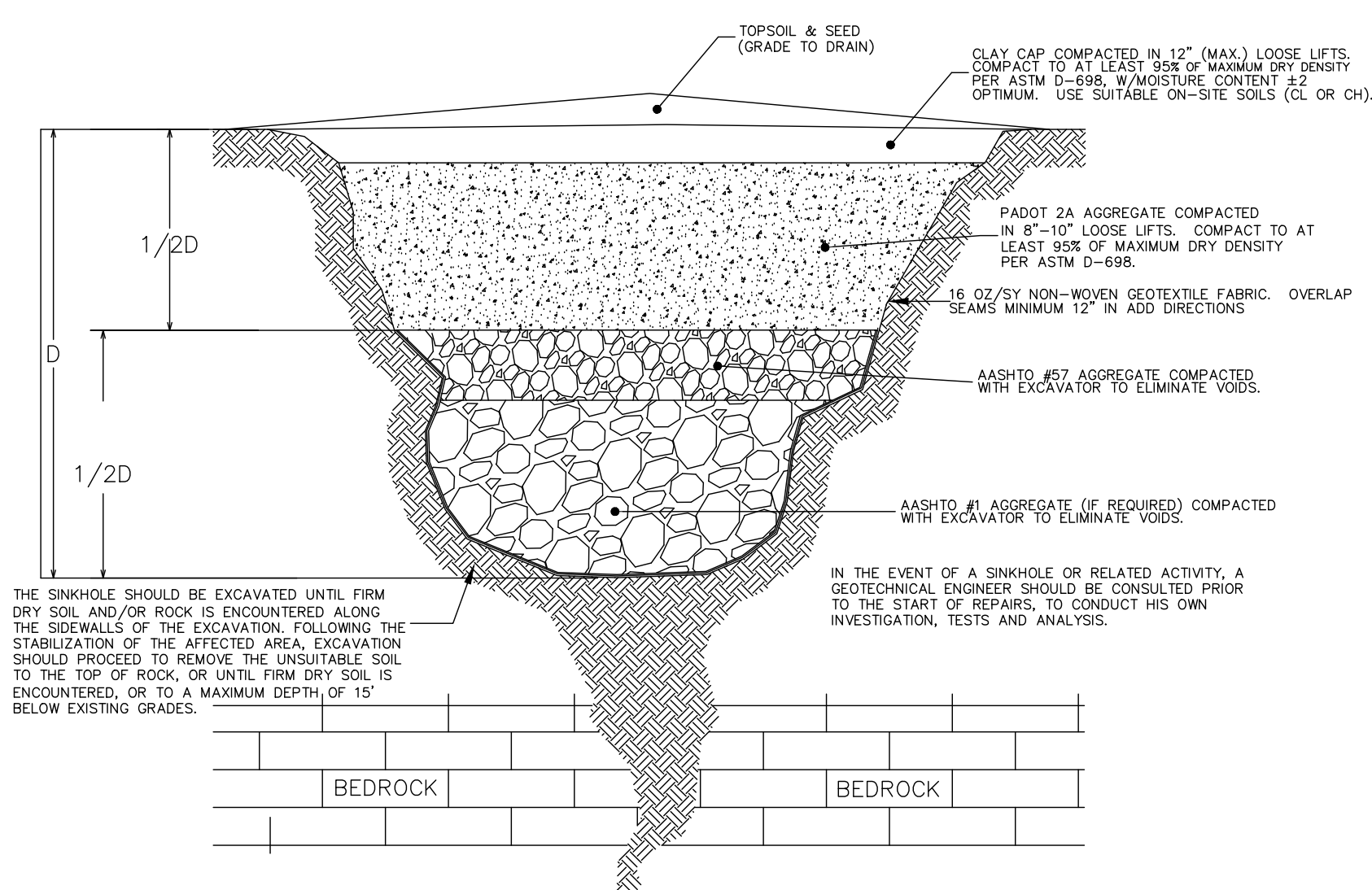
- NOTES:
1. PREPARE SOIL BEFORE INSTALLING TRM, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
 2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE TRM IN A 6" (15 CM) DEEP X 6" (15CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF TRM EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. USE SHOREMAX MAT AT THE CHANNEL/CULVERT OUTLET AS SUPPLEMENTAL SCOUR PROTECTION AS NEEDED. ANCHOR THE TRM WITH A ROW OF STAPLES AND ANCHORS APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF TRM BACK OVER SEED AND COMPACTED SOIL. SECURE TRM OVER SOIL WITH A ROW OF STAPLES AND ANCHORS SPACED APPROXIMATELY 12" (30 CM) ACROSS THE WIDTH OF THE TRM.
 3. ROLL CENTER TRM IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. TRM WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL TRM MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES AND ANCHORS IN APPROPRIATE LOCATIONS AS SHOWN IN THE FASTENER PATTERN GUIDE.
 4. PLACE CONSECUTIVE TRM END-OVER-END (SHINGLE STYLE) WITH A 4" - 6" (10 CM - 15 CM) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER TO SECURE TRM.
 5. FULL LENGTH EDGE OF TRM AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES AND ANCHORS APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
 6. ADJACENT TRM MUST BE OVERLAPPED APPROXIMATELY 2' - 5' (5 CM - 12.5 CM) (DEPENDING ON TRM TYPE) AND FASTENED.
 7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9 M - 12 M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
 8. THE TERMINAL END OF THE TRM MUST BE ANCHORED WITH A ROW OF STAPLES AND ANCHORS APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

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 www.tensargreen.com

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2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE TRM IN A 6" (15 CM) DEEP X 6" (15CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF TRM EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. USE SHOREMAX MAT AT THE CHANNEL/CULVERT OUTLET AS SUPPLEMENTAL SCOUR PROTECTION AS NEEDED. ANCHOR THE TRM WITH A ROW OF STAPLES AND ANCHORS APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF TRM BACK OVER SEED AND COMPACTED SOIL. SECURE TRM OVER SOIL WITH A ROW OF STAPLES AND ANCHORS SPACED APPROXIMATELY 12" (30 CM) ACROSS THE WIDTH OF THE TRM.
3. ROLL CENTER TRM IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. TRM WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL TRM MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES AND ANCHORS IN APPROPRIATE LOCATIONS AS SHOWN IN THE FASTENER PATTERN GUIDE.
4. PLACE CONSECUTIVE TRM END-OVER-END (SHINGLE STYLE) WITH A 4" - 6" (10 CM - 15 CM) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER TO SECURE TRM.
5. FULL LENGTH EDGE OF TRM AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES AND ANCHORS APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
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8. THE TERMINAL END OF THE TRM MUST BE ANCHORED WITH A ROW OF STAPLES AND ANCHORS APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

CHANNEL INSTALLATION EARTH ANCHOR DETAIL

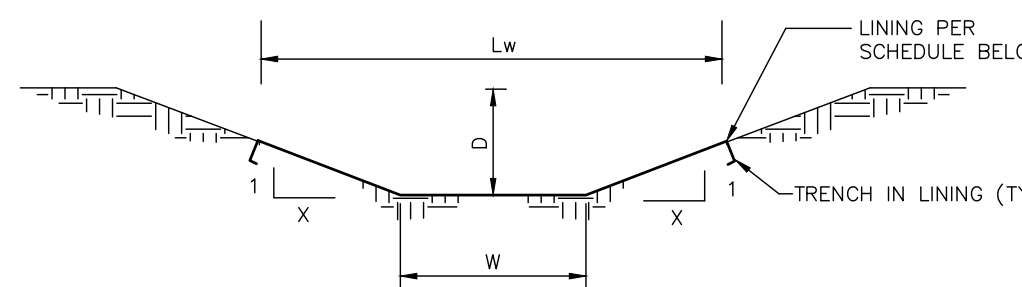
NO SCALE



NOTE: ALL SINKHOLE MITIGATION MEASURES SHALL BE APPROVED BY A QUALIFIED GEOLOGIST OR GEOTECHNICAL ENGINEER PRIOR TO IMPLEMENTATION.

SINKHOLE REPAIR DETAIL-BEDROCK THROAT NOT ENCOUNTERED

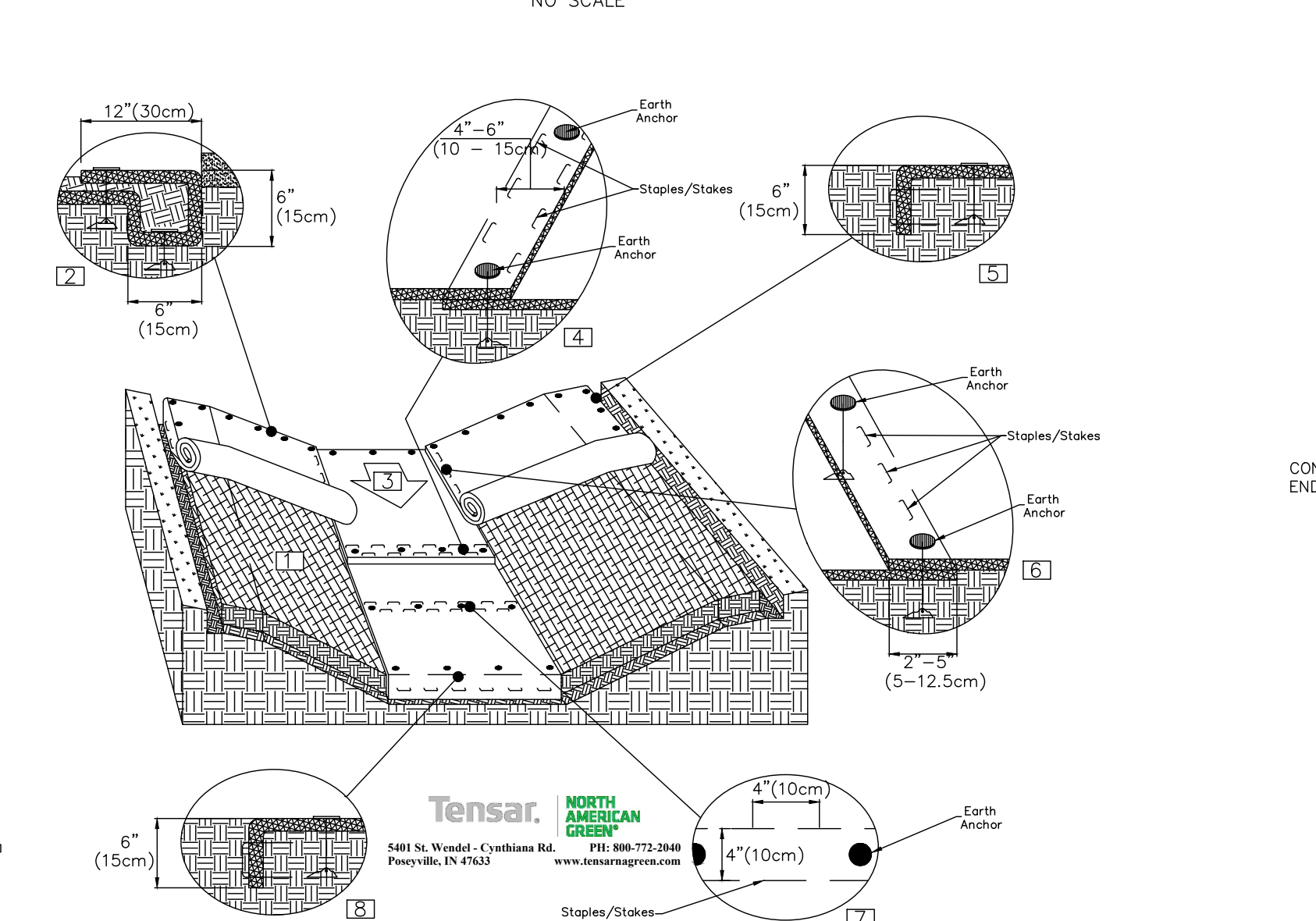
NO SCALE



SWALE NO	WIDTH (W)	DEPTH (D)	SIDE SLOPE(X)	MAX. SLOPE	LINING (Lw)	TEMPORARY LINING	STAPLE PATTERN
1	1.5'	1'	4	17%	9.5'	GRASS N.A.G. C-350	E
2	1.5'	1'	15	8%	31.5'	GRASS N.A.G. S-75	D
3	1.5'	1'	12.5	5%	26.5'	GRASS N.A.G. S-75	D
4	1.5'	1'	9	7%	19.5'	GRASS N.A.G. P-300	E
5	1.5'	1'	6.5	10%	14.5'	GRASS N.A.G. P-300	E
6	1'	1'	9	6%	19'	GRASS N.A.G. S-75	D
7	1'	1'	10	12%	21'	GRASS N.A.G. P-300	E
8	2'	1'	7.5	6%	17'	GRASS N.A.G. P-300	E
9	1.5'	1'	7	10%	15.5'	GRASS N.A.G. P-300	E
10	2'	1'	8	6%	18'	GRASS N.A.G. P-300	E
11A	1.5'	1'	3	33%	16.5'	RIPRAP R-5 RIPRAP	F
11B	1.5'	1'	7.5	10%	16.5'	GRASS N.A.G. P-300	E
12	1'	1'	15	4%	31'	GRASS N.A.G. S-75	D
13	1'	1'	3	6%	7'	GRASS N.A.G. S-75	D
14A	2'	1'	3	33%	8'	RIPRAP R-5 RIPRAP	-
14B	2'	1'	3	4%	8'	GRASS N.A.G. S-75	D
15	1.5'	1'	8	10%	17.5'	GRASS N.A.G. P-300	E

CHANNEL OR SWALE INLET PROTECTION

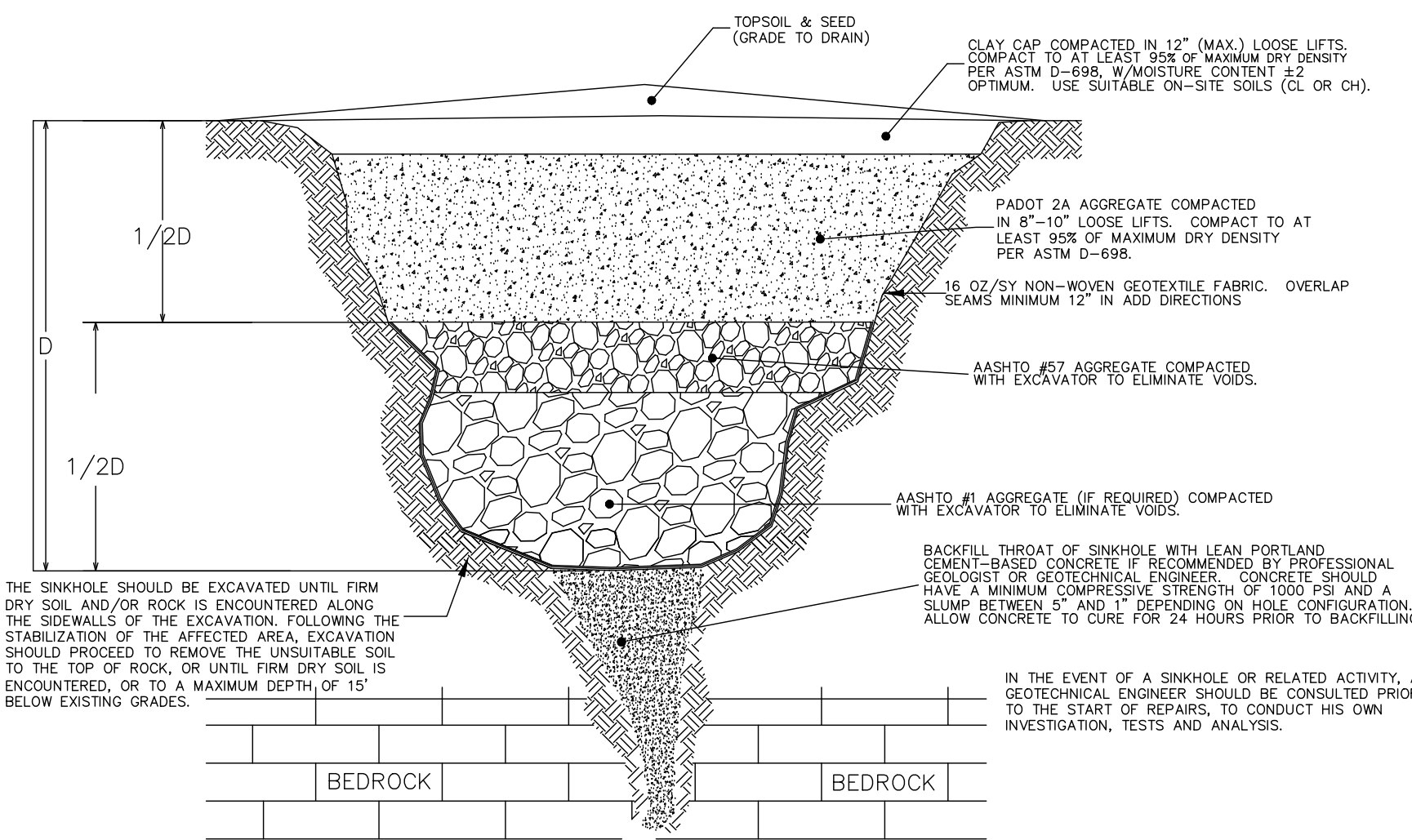
NO SCALE



1. PREPARE SOIL BEFORE INSTALLING TRM, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE TRM IN A 6" (15 CM) DEEP X 6" (15CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF TRM EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. USE SHOREMAX MAT AT THE CHANNEL/CULVERT OUTLET AS SUPPLEMENTAL SCOUR PROTECTION AS NEEDED. ANCHOR THE TRM WITH A ROW OF STAPLES AND ANCHORS APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF TRM BACK OVER SEED AND COMPACTED SOIL. SECURE TRM OVER SOIL WITH A ROW OF STAPLES AND ANCHORS SPACED APPROXIMATELY 12" (30 CM) ACROSS THE WIDTH OF THE TRM.
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CHANNEL INSTALLATION EARTH ANCHOR DETAIL

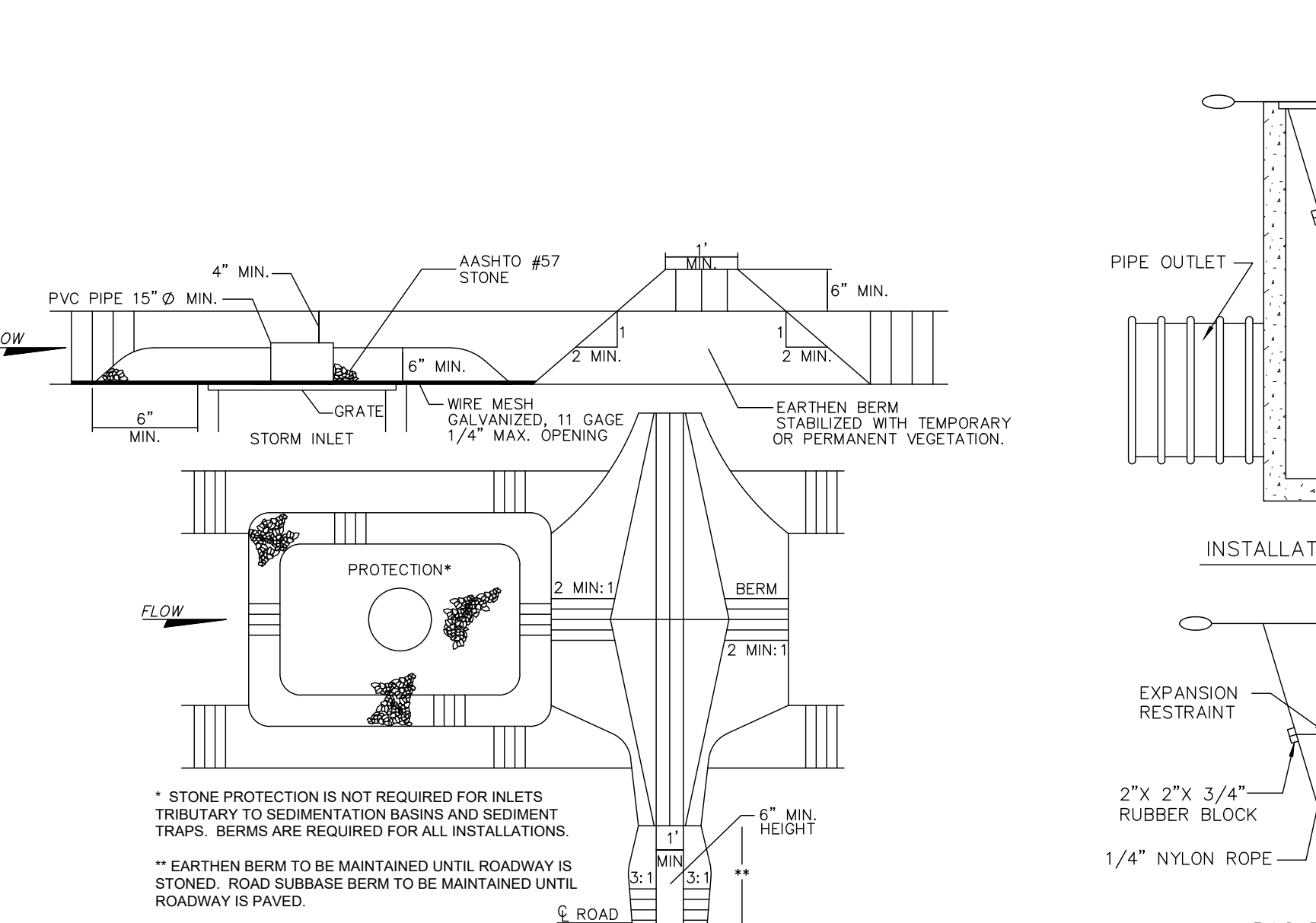
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NOTE: ALL SINKHOLE MITIGATION MEASURES SHALL BE APPROVED BY A QUALIFIED GEOLOGIST OR GEOTECHNICAL ENGINEER PRIOR TO IMPLEMENTATION.

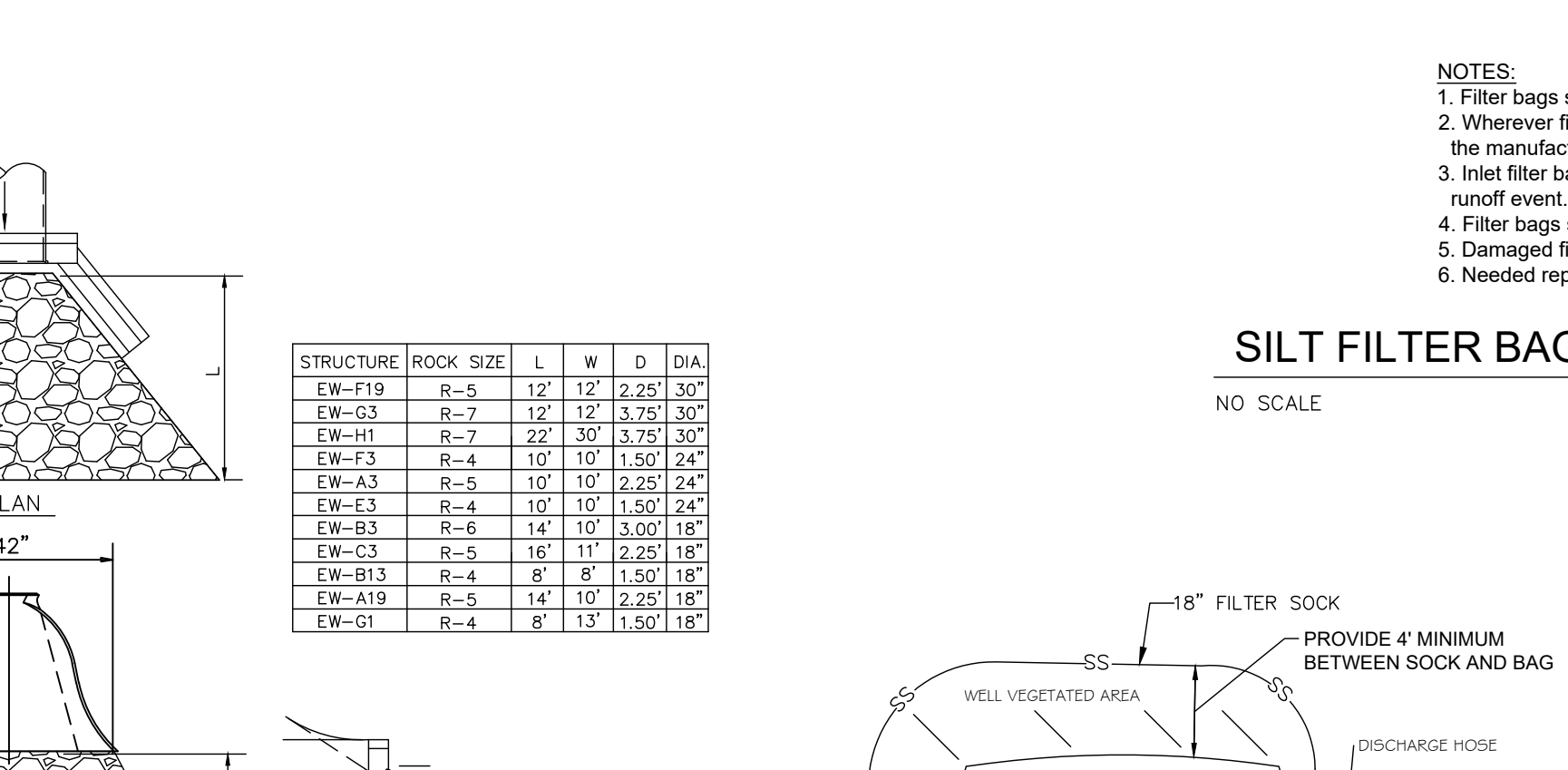
SINKHOLE REPAIR DETAIL-BEDROCK THROAT ENCOUNTERED

NO SCALE



CHANNEL OR SWALE INLET PROTECTION

NO SCALE



1. FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH DOUBLE-STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.
2. A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED.
3. BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE FLOW PATH SHALL BE PROVIDED. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%.
4. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.
5. THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/3 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHOULD BE FLOATING AND SCREENED.
6. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

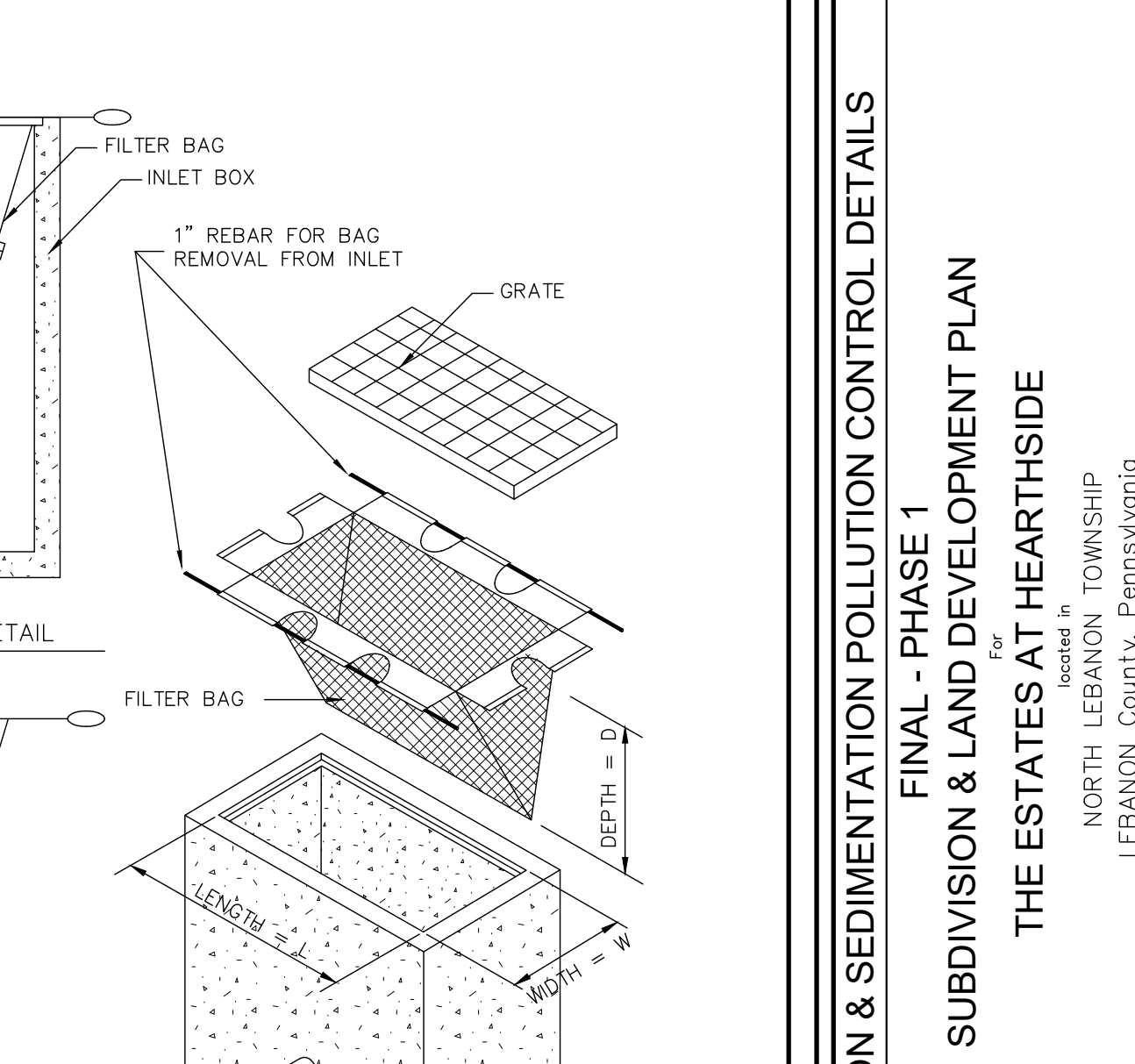
FLARED END SECTION/ENDWALL RIP RAP DETAIL

NO SCALE

- NOTE: SILT SOCK
1. A STOCKPILE SHALL BE USED TO CONTAIN ALL STRIPPED TOPSOIL IN A LIMITED AREA IN ORDER TO KEEP DISTURBANCE TO A MINIMUM.
 2. STOCKPILES ARE TO BE STABILIZED IMMEDIATELY.
 3. STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET.
 4. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
 5. STOCKPILES SHALL BE LOCATED SO THAT ALL SWALES CAN FUNCTION AS DESIGNED.

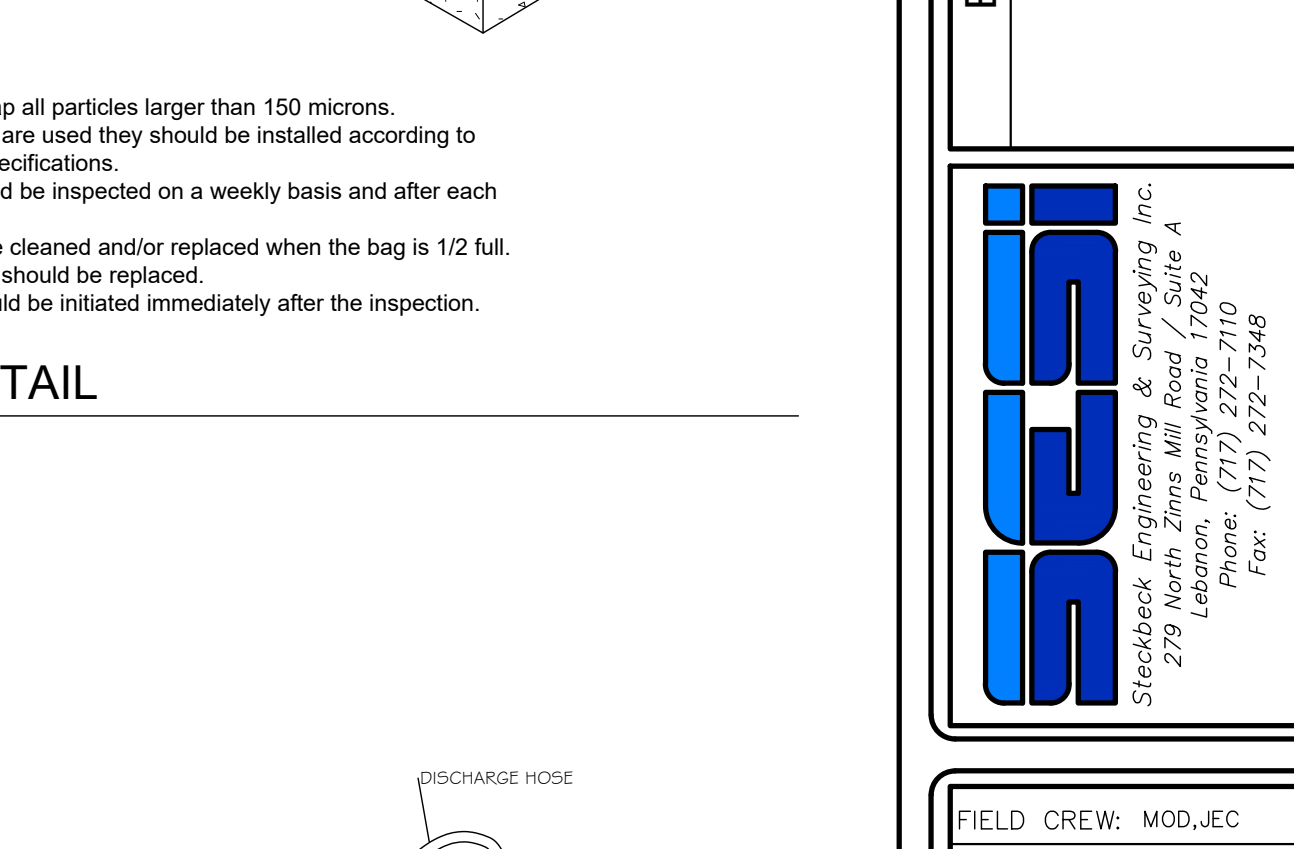
TOPSOIL STOCKPILE

NO SCALE



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NO SCALE



1. FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH DOUBLE-STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.
2. A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED.
3. BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE FLOW PATH SHALL BE PROVIDED. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%.
4. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.
5. THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/3 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHOULD BE FLOATING AND SCREENED.
6. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

PUMPED WATER FILTER BAG

NO SCALE

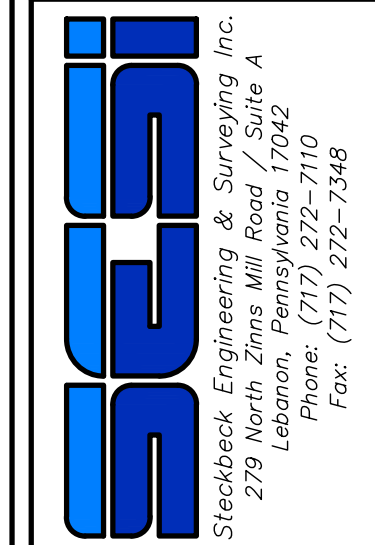
EROSION & SEDIMENTATION POLLUTION CONTROL DETAILS

FINAL - PHASE 1

SUBDIVISION & LAND DEVELOPMENT PLAN

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

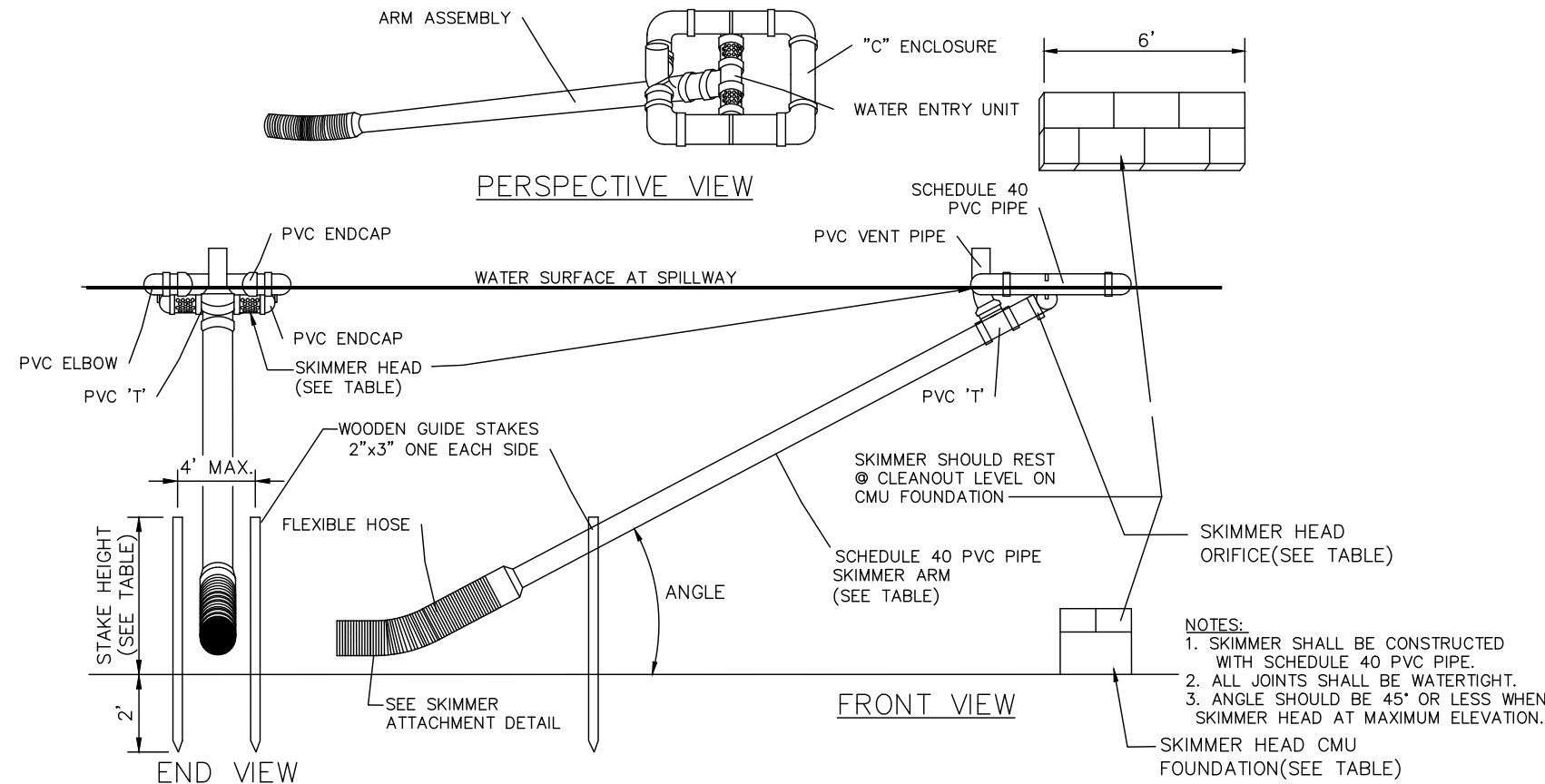
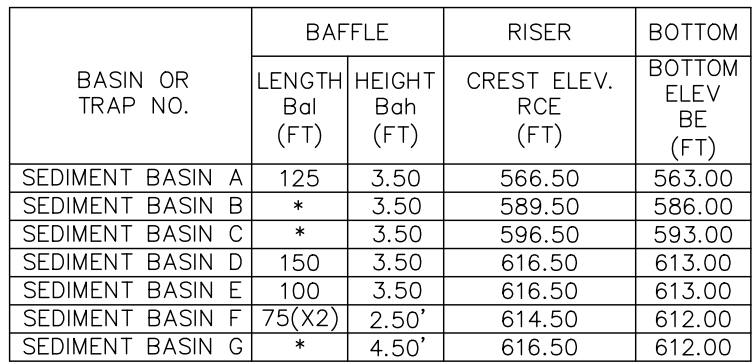
DATE: 6/19/24

SCALE: AS NOTED

PROJECT #784-24-001

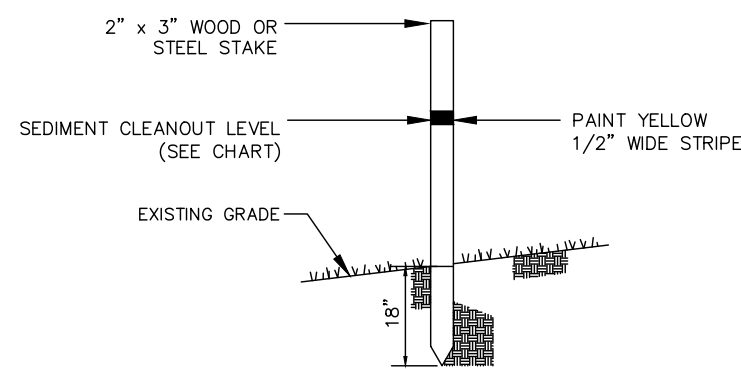
32

32 OF 33 SHEETS

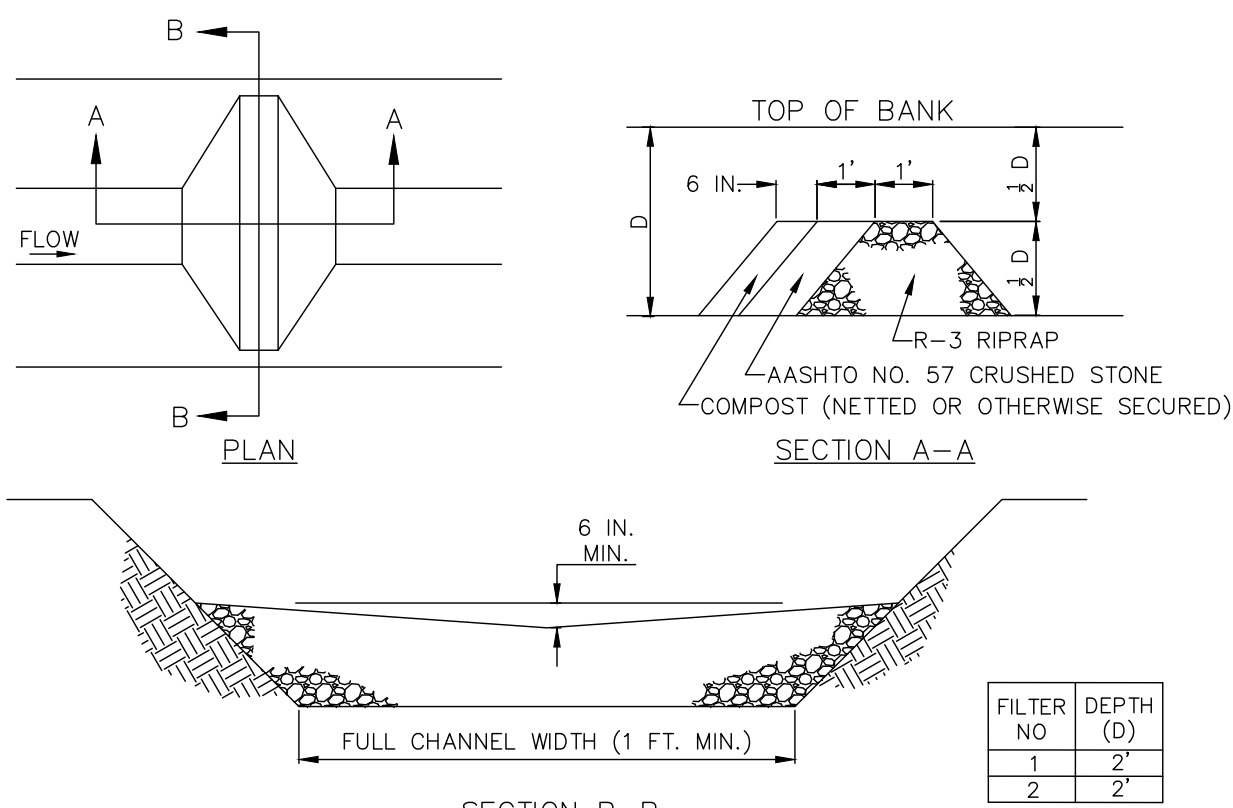
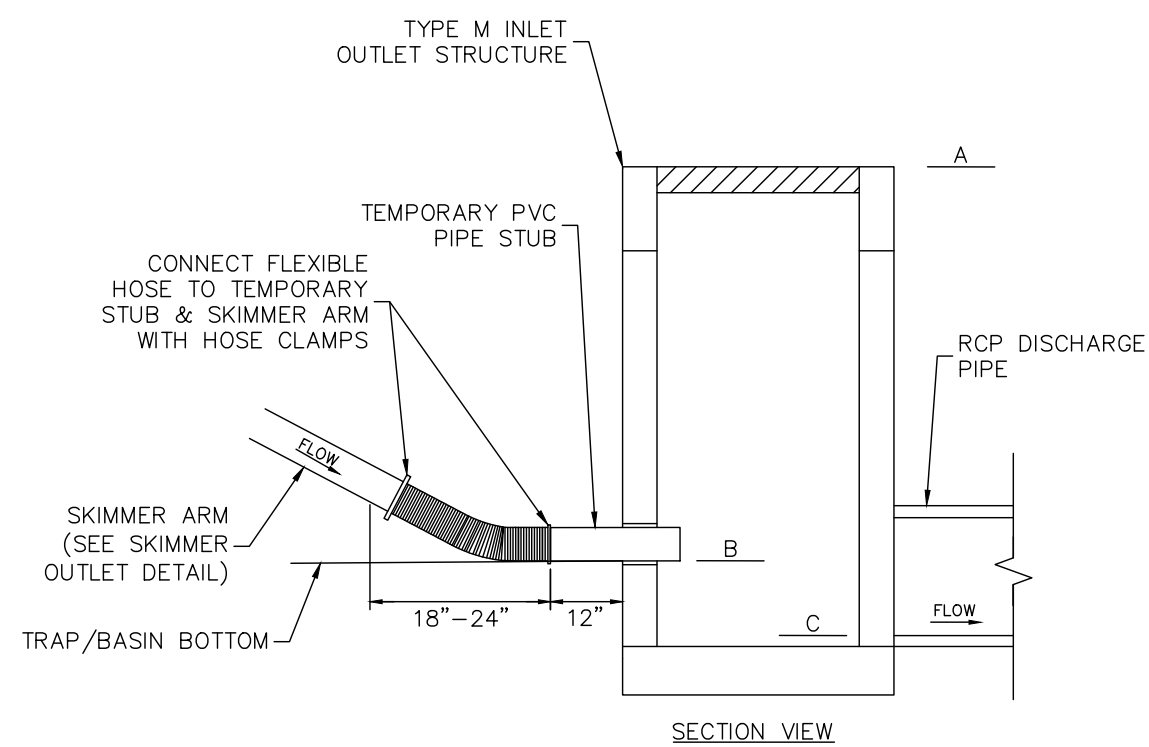
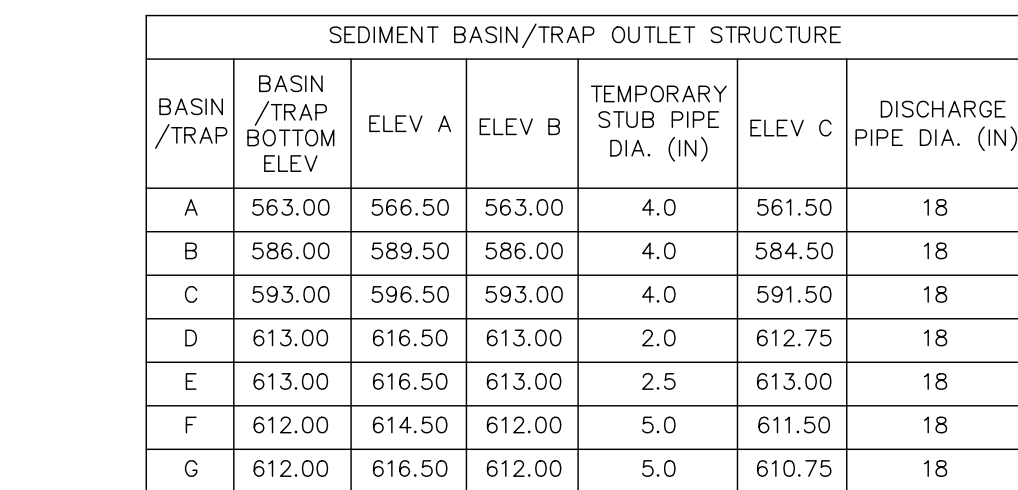


SKIMMER DESIGN CHART								
BASIN	SKIMMER ARM		SKIMMER HEAD		SKIMMER HEAD CMU		HEIGHT (FT)	WOODEN STAKES
	LENGTH (FT)	DIA. (IN)	PIPE DIA. (IN)	ORIFICE DIA.	BOTTOM	TOP ELEV		
A	7	4	4	3.6	563.00	564.00	1	4
B	7	4	4	3.6	586.00	587.00	1	4
C	7	4	4	2.9	593.00	594.00	1	4
D	7	2	2	1.7	613.00	614.50	1.5	4
E	7	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

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



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



	REVISION	DATE	BY
	PER ARRO LETTER DATED 7/3/24	8/12/24	CDS
	PER NLMA REVISIONS	8/12/24	CDS
	PER LOPD LETTER DATED 7/16/24	8/12/24	CDS
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located in
NORTH LEBANON TOWNSHIP
LEBANON County, Pennsylvania

FIELD CREW: MOD,JEC	
BASE MAP:	JEC
DRAWN:	CDS
DESIGN:	CDS
CHECKED:	SAS
DATE:	6/19/24
SCALE:	AS NOTED
PROJECT # 784-24-001	