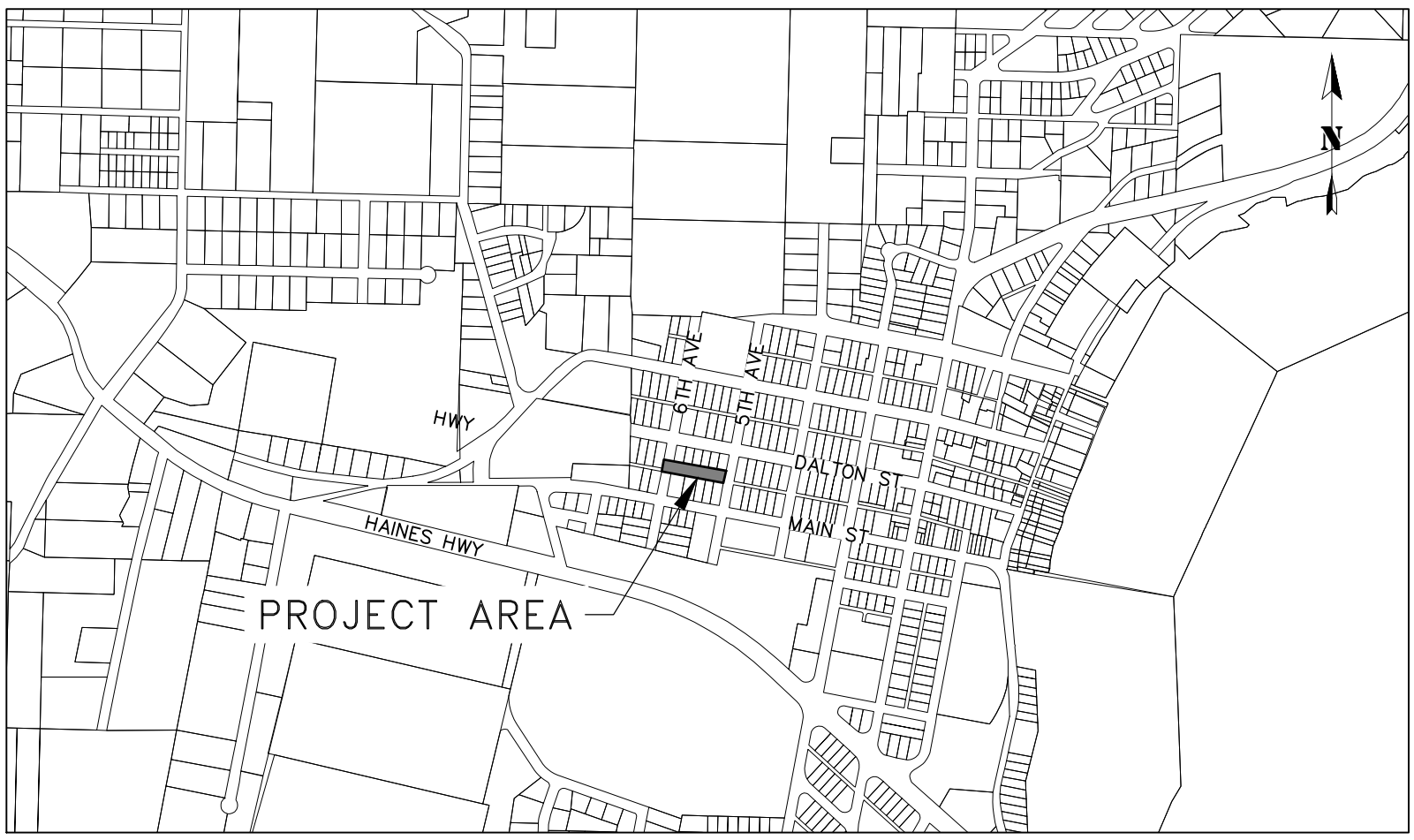


5TH TO 6TH AVENUE DRAINAGE IMPROVEMENTS

HAINES BOROUGH, ALASKA

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	LEGEND ABBREVIATIONS GENERAL NOTES
3	EXISTING SITE CONDITIONS & DRAINAGE PATTERNS
4	PLAN VIEW
5	PROFILE VIEW
6	CONSTRUCTION DETAILS
7	SURVEY CONTROL SHEET



PROJECT LOCATION MAP
NTS



**ALASKA
VICINITY MAP**
NTS

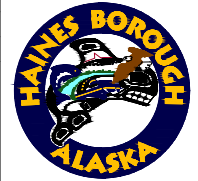
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5TH TO 6TH AVENUE
DRAINAGE IMPROVEMENTS

COVER SHEET

SHEET NUMBER
1
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7

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LEGEND

DESCRIPTION	EXISTING	REMOVE	PROPOSED
ASPHALT	EDGE OF ASPHALT	---	HATCHED AREA
BOLLARDS	• •		
BUILDING			
ROCKERY WALL			
DITCH FLOW LINE	— > — > —		— > — > —
GUTTER			
FENCE	— * — * — * — * —		
FIRE HYDRANT			
MONUMENT			
PROPERTY LINE	— · — · — · — · —		
EASEMENT LINE	— · — · — · — · —		— · — · — · — · —
SANITARY SEWER CLEANOUT	○		
SANITARY SEWER PIPE	—) PIPE SIZE & TYPE (—		
SANITARY SEWER MANHOLE			
SAWCUT & MTE LIMITS			— · — · — · — · —
SIGN			
STORM DRAIN CATCH BASIN			
STORM DRAIN PIPE	—) PIPE SIZE & TYPE SD (—	--- SD --- SD --- SD ---	— SD (P-1) SD —
STORM DRAIN MANHOLE, GRATE			
TOP OF DITCH	---		
TREE LINE			
UNDERGROUND PIPE CAP	[
UTILITY POLE	○		
UTILITY POLE WITH LUMINAIRE	○*		
OVERHEAD ELECTRICAL LINE	— OHE — OHE —		
WATER LINE PIPE	— PIPE SIZE & TYPE —		
WATER VALVE BOX	⊗		

ABBREVIATIONS

AC	ASPHALT CONCRETE
BOP	BEGINNING OF PROJECT
BTM	BOTTOM
BVC	BEGIN VERTICAL CURVE
CB	CATCH BASIN
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED POLYETHYLENE PIPE
CONC	CONCRETE
CTE	CONNECT TO EXISTING
DIP	DUCTILE IRON PIPE
DIA	DIAMETER
EL	ELEVATION
EOP	END OF PROJECT
EX	EXISTING
FG	FINISHED GRADE
FH	FIRE HYDRANT
GV	GATE VALVE
HB	HAINES BOROUGH
HDPE	HIGH DENSITY POLYETHYLENE
IE	INVERT ELEVATION
INV	INVERT
LT	LEFT
LVC	LENGTH OF VERTICAL CURVE
MH	MANHOLE
MIN	MINIMUM
MTE	MATCH TO EXISTING
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
OHE	OVERHEAD ELECTRIC
PC	POINT OF CURVATURE
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENT
PVC	POLYVINYL CHLORIDE PIPE
PVI	POINT OF VERTICAL INTERSECTION
RP	RADIUS POINT
RT	RIGHT
ROW	RIGHT-OF-WAY
SDMH	STORM DRAIN MANHOLE
SSMH	SANITARY SEWER MANHOLE
STA	STATION
STD	STANDARD
TBC	TOP BACK OF CURB
TBG	TOP BACK OF GUTTER
TBM	TEMPORARY BENCHMARK
TP	TOP OF PAVEMENT
TYP	TYPICAL
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY

GENERAL NOTES

- ALL WORK FOR THESE PLANS SHALL BE CONDUCTED IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL LAWS AND STANDARDS.
- LOCATIONS AND ELEVATION OF EXISTING UNDERGROUND WATER, SEWER, POWER, TELEPHONE AND CABLE TELEVISION SHOWN ON THE PLANS WERE DERIVED FROM HAINES BOROUGH AS-BUILTS AND FIELD LOCATES. THE ACTUAL LOCATION OF UTILITIES MAY VARY FROM THOSE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING, PROTECTING AND MAINTAINING EXISTING UTILITIES THROUGHOUT THE CONSTRUCTION OF THE PROJECT. ANY DAMAGE TO UTILITIES DURING CONSTRUCTION SHALL BE PAID FOR BY THE CONTRACTOR AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. THE CONTRACTOR SHALL CONTACT AND REQUEST UTILITY LOCATES, AT A MINIMUM, FROM THE FOLLOWING PRIOR TO BEGINNING EARTH DISTURBING ACTIVITIES:
 - A) HAINES BOROUGH PUBLIC FACILITIES, 907-766-6414.
 - B) ALASKA POWER & TELEPHONE(AP&T), 907-766-6500.
 - C) HAINES CABLE TV, 907-766-2337.
- A GEOTECHNICAL INVESTIGATION WAS NOT PERFORMED AS PART OF THIS DESIGN. HARDPAN, CLAY, GROUNDWATER, LARGE BOULDERS, BEDROCK, STUMPS, LOGS, ORGANICS, AND OTHER NATIVE MATERIALS MAY BE ENCOUNTERED AT VARIOUS DEPTHS DURING TRENCHING AND SITE GRADING OPERATIONS.
- THE TOTAL DISTURBED AREA FOR THIS PROJECT IS ANTICIPATED TO BE LESS THAN ONE ACRE.
- ALL DISTURBED AREAS SHALL BE RESTORED TO EXISTING CONDITIONS AND GRADES, AND STABILIZED WITH AN APPROVED HYDRAULIC GROWTH MEDIUM AND GRASS SEED UNLESS OTHERWISE SHOWN ON THE PLANS.
- CONTRACTOR SHALL ENSURE GARBAGE PICKUP, PRIVATE AND BUSINESS DELIVERIES, AND DAILY MAIL SERVICE WILL BE UNINTERRUPTED TO ALL BUSINESS AND RESIDENCES AFFECTED BY THIS PROJECT.
- THE CONTRACTOR SHALL NOTIFY EACH PROPERTY OWNER OF DRIVEWAY CLOSURE 48 HOURS PRECEDING THE DAY THE DRIVEWAY IS TO BE CLOSED TO VEHICULAR ACCESS. THE PROPERTY OWNER SHALL BE INFORMED OF THE PERIOD OF TIME THE CLOSURE WILL BE IN EFFECT. NO DRIVEWAY CLOSURES WILL BE PERMITTED UNTIL THIS REQUIREMENT HAS BEEN MET TO THE SATISFACTION OF THE ENGINEER.
- THE CONTRACTOR SHALL NOT STORE MATERIALS OR EQUIPMENT, OR OPERATE EQUIPMENT WITH ITS TRACKS OR WHEELS PLACED ON PRIVATE PROPERTY, WITHOUT THE APPROVAL OF THE PROPERTY OWNER.
- THE PLAN DRAWINGS DO NOT SHOW ALL PLANTINGS, AND OTHER LANDSCAPING THAT WILL BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES. NO PLANTINGS OR LANDSCAPING ARE TO BE REMOVED OR DAMAGED, UNLESS SHOWN ON THE DRAWINGS OR DIRECTED BY THE ENGINEER.
- ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE DISPOSED OF OFF-SITE, EXCEPT AS NOTED IN THE CONTRACT DOCUMENTS. ALL OTHER MATERIALS TO BE REMOVED AND DISPOSED OF SHALL BECOME THE PROPERTY OF THE CONTRACTOR, INCLUDING CONCRETE, ASPHALT, UNSUITABLE SOILS AND ETC.
- WORK SHALL BE PERFORMED MONDAY THROUGH FRIDAY, 8AM TO 5PM ONLY.

TRAFFIC CONTROL NOTES

- ALL TRAFFIC TO BE CONTROLLED PER REQUIREMENTS OF THE ALASKA TRAFFIC MANUAL, U.S. DEPARTMENT OF TRANSPORTATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE ALASKA SUPPLEMENT.
- MAINTAIN ONE (1) LANE FOR TRAFFIC AT ALL TIMES UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- NOTIFICATION OF WORK THAT MAY IMPEDE TRAFFIC MUST BE PROVIDED TO THE HB PUBLIC WORKS DEPARTMENT, HB POLICE DEPARTMENT, HAINES VOLUNTEER FIRE DEPARTMENT, CHILKOOT INDIAN ASSOCIATION, ALASKA DOT&PF HAINES M&O FOREMAN, AND THE GENERAL PUBLIC A MINIMUM OF 72 HOURS IN ADVANCE OF IMPLEMENTING TRAFFIC CONTROL.
- CONTRACTOR MUST PROVIDE ALL NECESSARY SIGNS AND TRAFFIC CONTROL DEVICES TO MOVE TRAFFIC THROUGH OR AROUND THE PROJECT SITE.
- PROVIDE ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES.

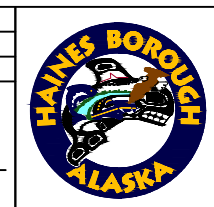
STANDARD SPECIFICATION

PERFORM THE WORK SHOWN BY THESE PLANS IN ACCORDANCE WITH THE ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES 2020 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND THE PROJECT MANUAL.

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5TH TO 6TH AVENUE
DRAINAGE IMPROVEMENTS

LEGEND
ABBREVIATIONS
GENERAL NOTES

SHEET NUMBER
2
OF
7

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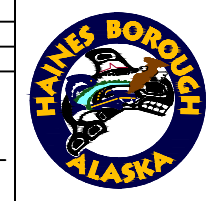


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5TH TO 6TH AVENUE
DRAINAGE IMPROVEMENTS

EXISTING SITE
CONDITIONS &
DRAINAGE PATTERNS

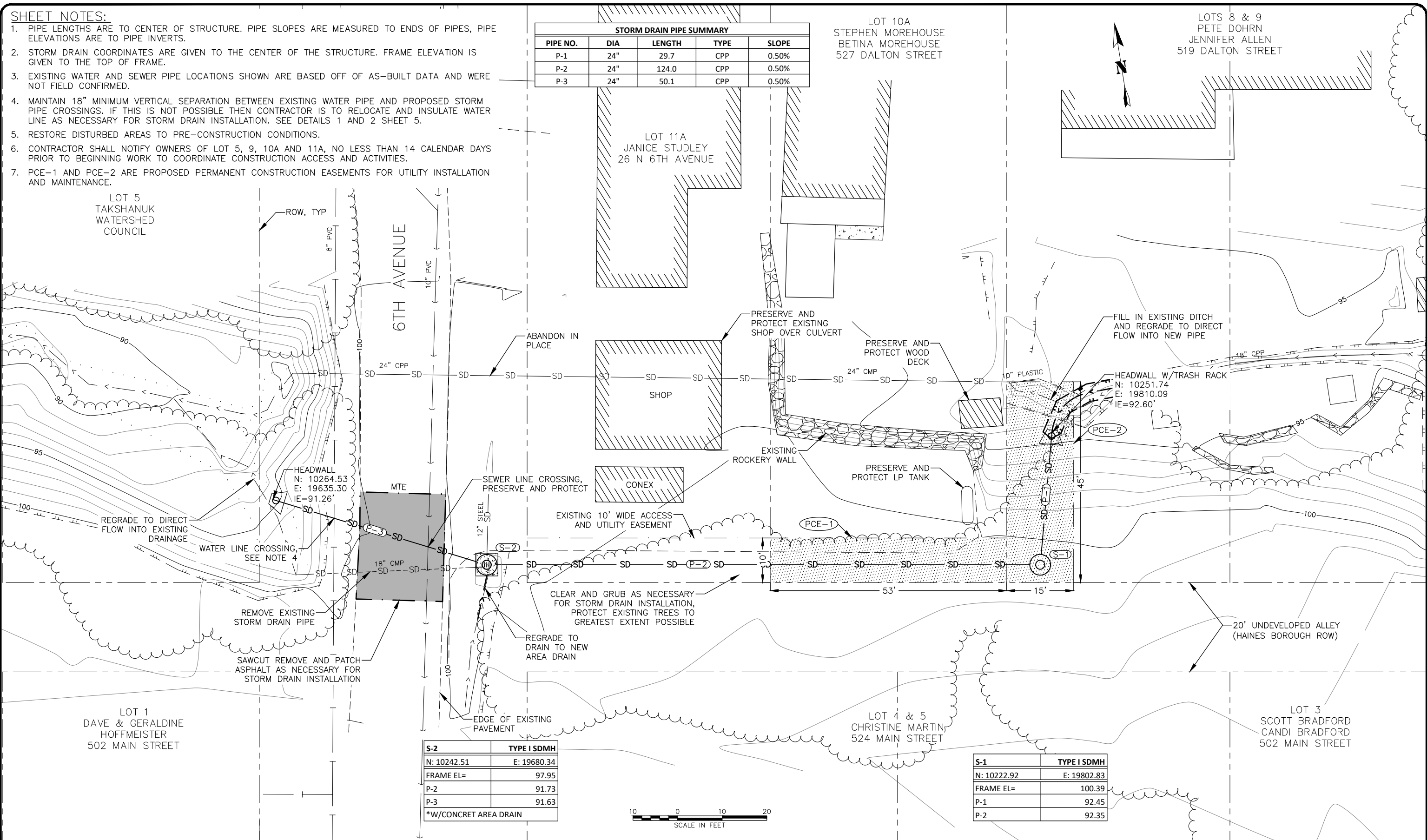
SHEET NUMBER
3
OF
7

SHEET NOTES:

- PIPE LENGTHS ARE TO CENTER OF STRUCTURE. PIPE SLOPES ARE MEASURED TO ENDS OF PIPES, PIPE ELEVATIONS ARE TO PIPE INVERTS.
- STORM DRAIN COORDINATES ARE GIVEN TO THE CENTER OF THE STRUCTURE. FRAME ELEVATION IS GIVEN TO THE TOP OF FRAME.
- EXISTING WATER AND SEWER PIPE LOCATIONS SHOWN ARE BASED OFF OF AS-BUILT DATA AND WERE NOT FIELD CONFIRMED.
- MAINTAIN 18" MINIMUM VERTICAL SEPARATION BETWEEN EXISTING WATER PIPE AND PROPOSED STORM PIPE CROSSINGS. IF THIS IS NOT POSSIBLE THEN CONTRACTOR IS TO RELOCATE AND INSULATE WATER LINE AS NECESSARY FOR STORM DRAIN INSTALLATION. SEE DETAILS 1 AND 2 SHEET 5.
- RESTORE DISTURBED AREAS TO PRE-CONSTRUCTION CONDITIONS.
- CONTRACTOR SHALL NOTIFY OWNERS OF LOT 5, 9, 10A AND 11A, NO LESS THAN 14 CALENDAR DAYS PRIOR TO BEGINNING WORK TO COORDINATE CONSTRUCTION ACCESS AND ACTIVITIES.
- PCE-1 AND PCE-2 ARE PROPOSED PERMANENT CONSTRUCTION EASEMENTS FOR UTILITY INSTALLATION AND MAINTENANCE.

STORM DRAIN PIPE SUMMARY				
PIPE NO.	DIA	LENGTH	TYPE	SLOPE
P-1	24"	29.7	CPP	0.50%
P-2	24"	124.0	CPP	0.50%
P-3	24"	50.1	CPP	0.50%

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S-2	TYPE I SDMH
N: 10242.51	E: 19680.34
FRAME EL=	97.95
P-2	91.73
P-3	91.63
*W/CONCRET AREA DRAIN	

S-1	TYPE I SDMH
N: 10222.92	E: 19802.83
FRAME EL=	100.39
P-1	92.45
P-2	92.35



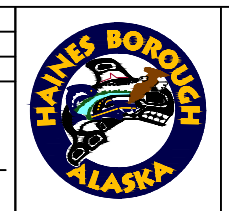
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**5TH TO 6TH AVENUE
DRAINAGE IMPROVEMENTS**

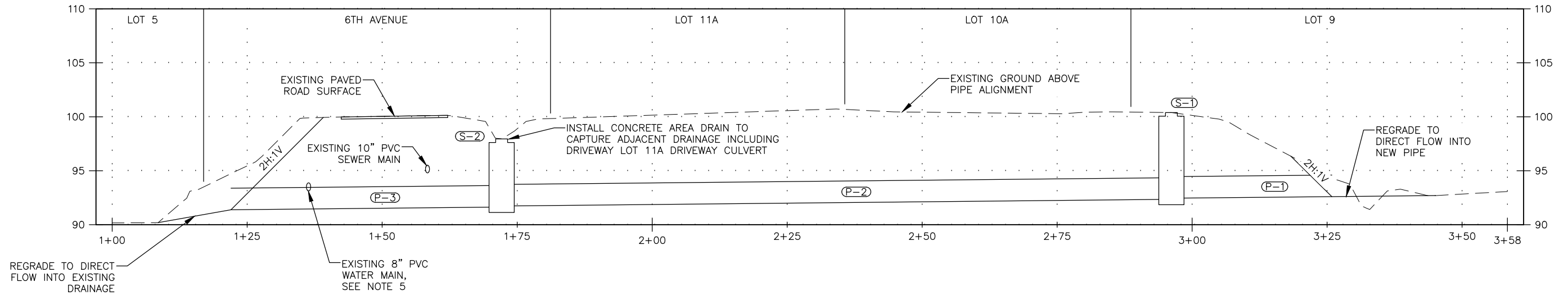
PLAN VIEW

SHEET NUMBER
4
OF
7

S-2	TYPE I SDMH
N: 10242.51	E: 19680.34
FRAME EL=	97.95
P-2	91.73
P-3	91.63
*W/CONCRET AREA DRAIN	

STORM DRAIN PIPE SUMMARY				
PIPE NO.	DIA	LENGTH	TYPE	SLOPE
P-1	24"	29.7	CPP	0.50%
P-2	24"	124.0	CPP	0.50%
P-3	24"	50.1	CPP	0.50%

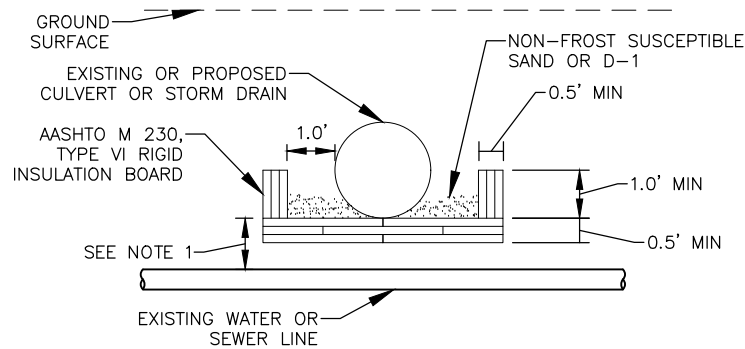
S-1	TYPE I SDMH
N: 10222.92	E: 19802.83
FRAME EL=	100.39
P-1	92.45
P-2	92.35



PIPE NETWORK PROFILE

SHEET NOTES:

1. PROFILE FOLLOWS THE ALIGNMENT OF THE PIPE AND DRAINAGE, SEE PLAN VIEW FOR HORIZONTAL LAYOUT.
2. PIPE LENGTHS ARE TO CENTER OF STRUCTURE. PIPE SLOPES ARE MEASURED TO ENDS OF PIPES, PIPE ELEVATIONS ARE TO PIPE INVERTS.
3. STORM DRAIN COORDINATES ARE GIVEN TO THE CENTER OF THE STRUCTURE. FRAME ELEVATION IS GIVEN TO THE TOP OF FRAME.
4. EXISTING WATER AND SEWER PIPE ELEVATIONS SHOWN IN PROFILE VIEW ARE BASED OFF OF AS-BUILT DATA AND WERE NOT FIELD CONFIRMED.
5. MAINTAIN 18" MINIMUM VERTICAL SEPARATION BETWEEN EXISTING WATER PIPE AND PROPOSED STORM PIPE CROSSINGS. IF THIS IS NOT POSSIBLE THEN CONTRACTOR IS TO RELOCATE AND INSULATE WATER LINE AS NECESSARY FOR STORM DRAIN INSTALLATION. SEE DETAILS 1 AND 2 THIS SHEET.
6. RESTORE DISTURBED AREAS TO PRE-CONSTRUCTION CONDITIONS.
7. CONTRACTOR SHALL NOTIFY OWNERS OF LOT 5, 9, 10A AND 11A, NO LESS THAN 14 CALENDAR DAYS PRIOR TO BEGINNING WORK TO COORDINATE CONSTRUCTION ACCESS AND ACTIVITIES.

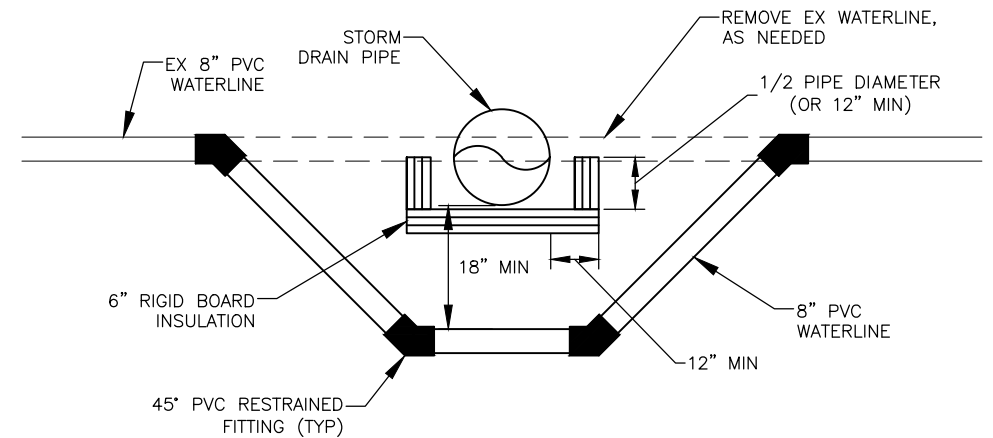


UTILITY CROSSING

1 WATER LINE INSULATION DETAILS
SCALE: NOT TO SCALE

DETAIL 1/5 NOTES:

1. INSTALL INSULATION AS SHOWN WHEN DISTANCE IS LESS THAN 6.0'.
2. PIPE INSULATION SHALL BE 8'-0" IN LENGTH, CENTERED OVER WATER LINE OR WATER SERVICE.
3. PIPE INSULATION WITH R-FACTOR EQUAL TO RIGID BOARD MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.
4. CROSSING SHALL BE PROTECTED WITH A MINIMUM 6" OF INSULATION BOARDS WITH A 12" OVERLAP, AS SHOWN.



2 VERTICAL WATERLINE RELOCATION
SCALE: NOT TO SCALE

DETAIL 2/5 NOTES:

1. SEE DETAIL 1 THIS SHEET.

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5TH TO 6TH AVENUE
DRAINAGE IMPROVEMENTS

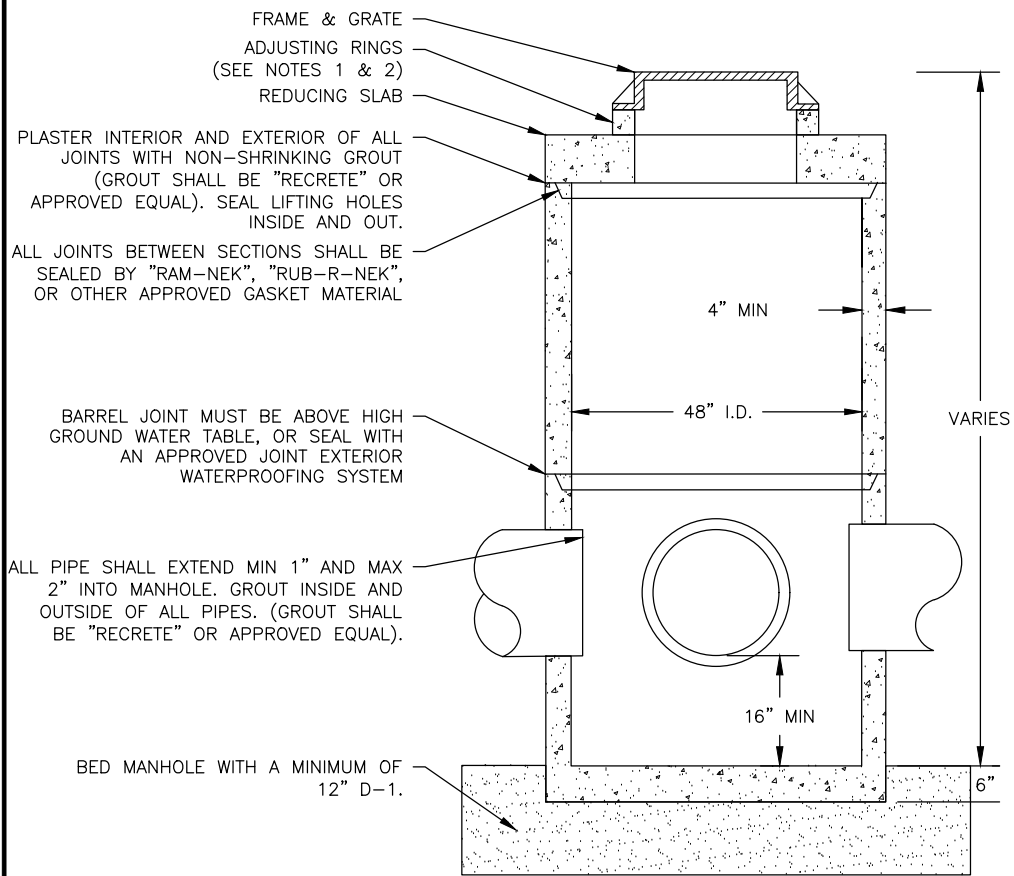
PROFILE VIEW

SHEET NUMBER
5
OF
7

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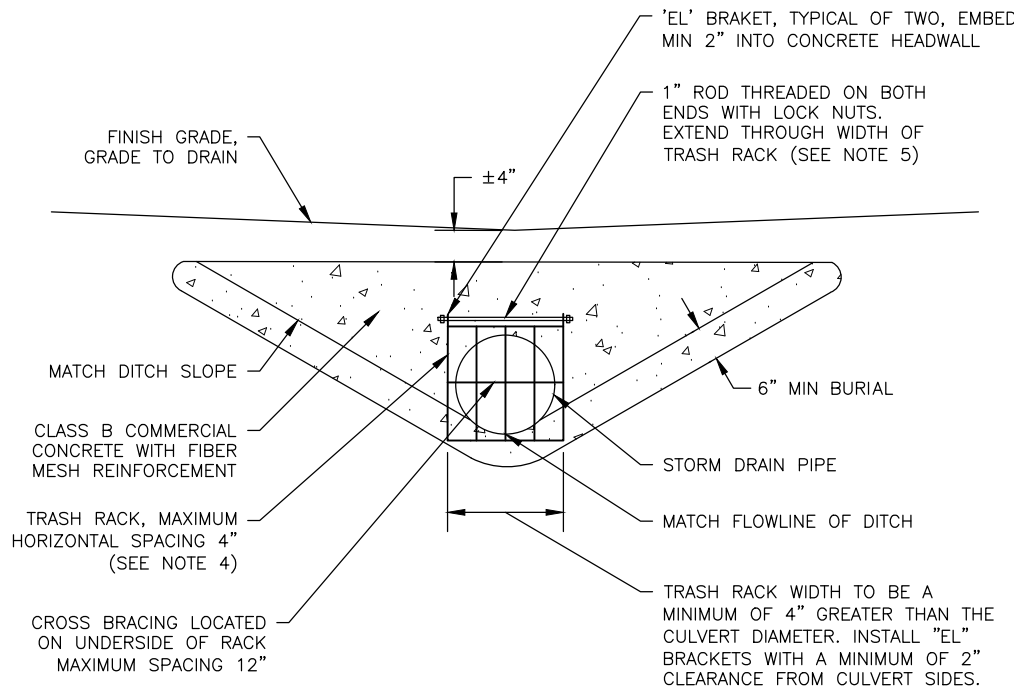


1 CONCENTRIC STORM DRAIN MANHOLE
W/ REDUCING SLAB DETAIL - TYPE I

SCALE: NOT TO SCALE

DETAIL 1/6 NOTES:

- MANHOLES TO BE CAST WITH MINIMUM OF ONE 4" ADJUSTING RING REQUIRED TO ALLOW FOR MINOR CHANGES IN GRADE AS DIRECTED BY THE ENGINEER.
- THE AREA BETWEEN THE TOP OF THE MANHOLE AND THE FRAME SHALL BE FORMED AND FILLED WITH CONCRETE OR NON-SHRINK GROUT. NO BRICKS, WOOD OR OTHER MATERIALS PERMITTED FOR ADJUSTING GRADE.
- THE INSIDE EXPOSED SURFACE SHALL BE SMOOTH AND FREE OF VOIDS AND PROJECTIONS. THE CONSTRUCTED FRAME SUPPORT MUST MATCH THE INTERIOR OF THE FRAME INSTALLED AS APPROVED BY THE ENGINEER.
- FRAME AND GRATE SHALL BE DUCTILE IRON. FRAME MAY BE CAST INTO THE TOP UNIT OR PLACED OVER THE OPENING AS APPROVED BY THE ENGINEER. FRAME AND GRATE MUST BE OF A TYPE THAT WILL NOT CREATE A HAZARD FOR BICYCLE TRAFFIC.
- MANHOLE SHALL MEET HIGHWAY STANDARD-20 LOAD REQUIREMENTS.
- MINIMUM STEEL REQUIRED AS PER ASTM C-478-69.
- MINIMUM SUMP DEPTH SHALL BE 16".

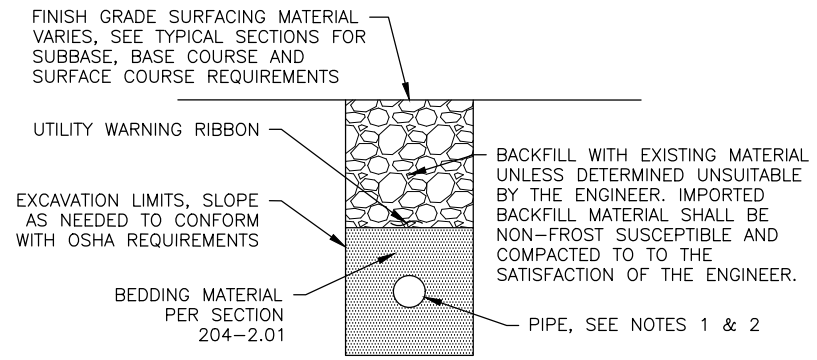


2 STANDARD CONCRETE HEADWALL DETAIL

SCALE: NOT TO SCALE

DETAIL 2/6 NOTES:

- SLOPE OF HEADWALL SHALL BE 1:1 OR FLATTER AND SHALL BE DETERMINED BY THE ENGINEER.
- IF CORRUGATED PLASTIC PIPE IS USED, EMPTY WATER FROM CORRUGATIONS ON MITERED ENDS AND THEN COMPLETELY FILL VOIDS WITH CONCRETE GROUT.
- NO HEADWALLS ARE TO BE CONSTRUCTED WITHIN DOT&PF RIGHT-OF-WAY UNLESS DIRECTED BY THE ENGINEER.
- TRASH RACKS SHALL BE REQUIRED ON HEADWALLS AT UPSTREAM ENDS OF CULVERTS NETERING CLOSED STORM DRAIN SYSTEMS, TRASH RACK BARS TO BE CONSTRUCTED OF 2" X 3/8" BARS, HEADWALLS THAT REQUIRE TRASH RACKS ARE IDENTIFIED ON THE PLAN SHEETS.
- ALL COMPONENTS OF THE TRASH RACK SHALL BE CONSTRUCTED OF EITHER 6061 ALUMINUM OR HOT DIPPED GALVANIZED STEEL.

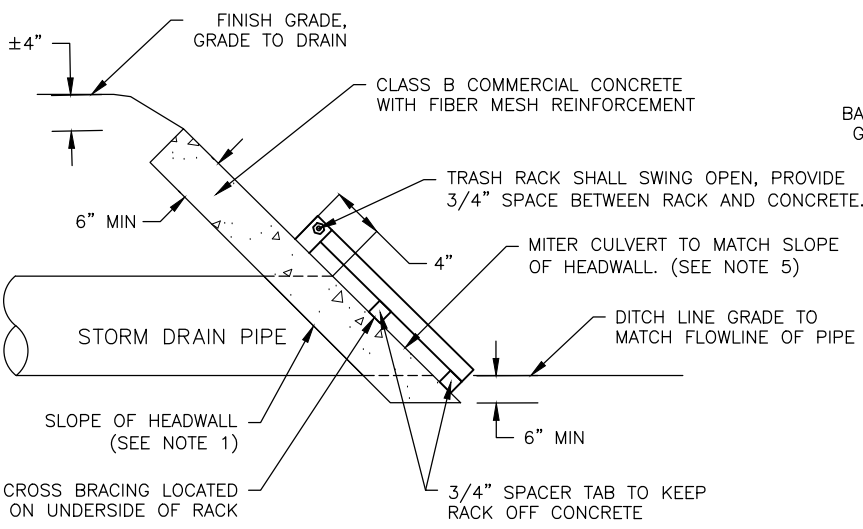


3 PIPE TRENCH DETAIL

SCALE: NOT TO SCALE

DETAIL 3/6 NOTES:

- FOR PIPE SIZE AND MATERIAL SEE CONSTRUCTION PLAN, SHEETS.
- PIPE TO HAVE MINIMUM 1' BEDDING IN EACH DIRECTION.

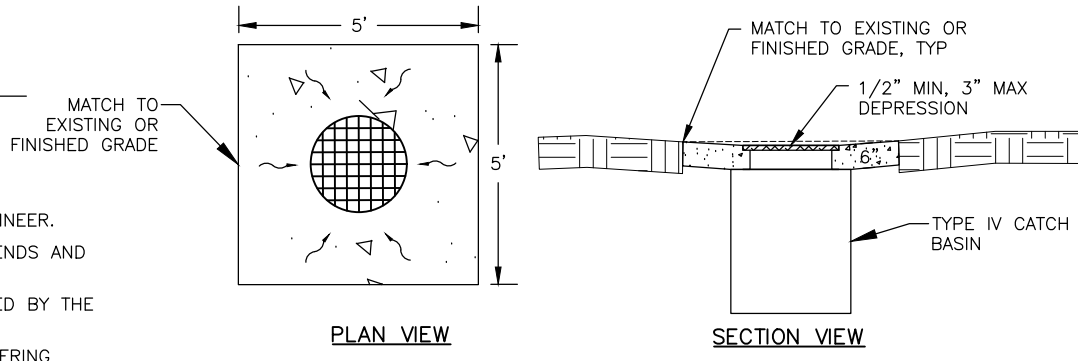
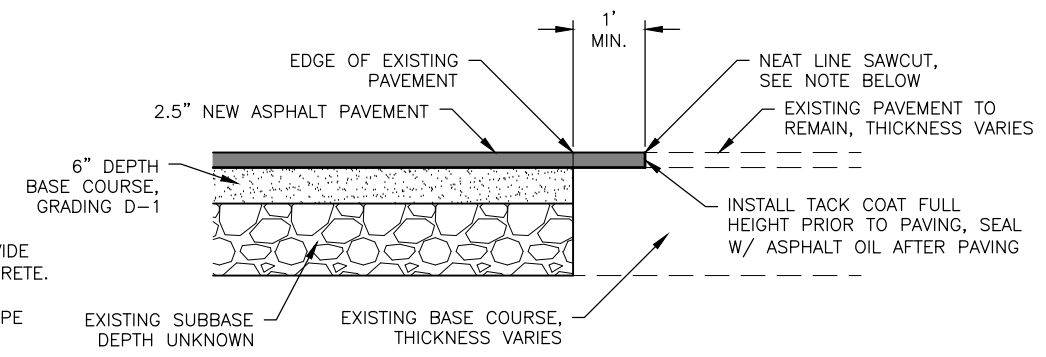


4 PAVEMENT MATCH JOINT

SCALE: NOT TO SCALE

DETAIL 4/6 NOTES:

- FINAL SAWCUT OF EXISTING ASPHALT SHALL NOT BE MADE UNTIL 24 HOURS PRIOR TO PAVING.



5 CONCRETE AREA DRAIN DETAIL

SCALE: NOT TO SCALE

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5TH TO 6TH AVENUE
DRAINAGE IMPROVEMENTS

CONSTRUCTION
DETAILS

SHEET NUMBER
6
OF
7