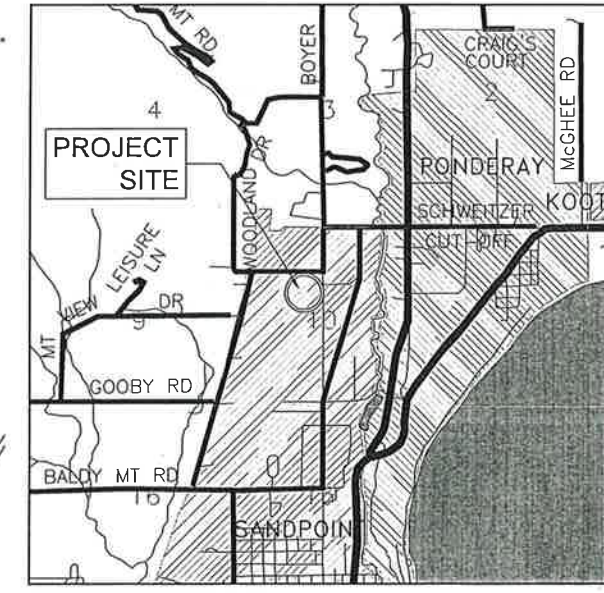


NORTH ADDITION TO SANDPOINT AIRPARK STORMWATER, UTILITY, AND ROAD PLANS

FOR AGENCY REVIEW

SECTION 10, TOWNSHIP 57 NORTH, RANGE 2 WEST, BOISE MERIDIAN, BONNER COUNTY, IDAHO

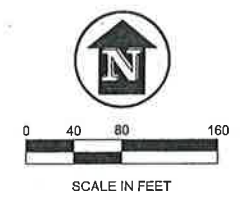


VICINITY MAP
NOT TO SCALE

DRAWING INDEX

SHEET #	TITLE
1.1	VICINITY MAP, SITE LAYOUT, DRAWING INDEX
2.1	ROAD P&P - WOODLAND DRIVE
2.2	ROAD P&P - BEAVER AVENUE
2.3	ROAD P&P - OTTER STREET
2.4	ROAD DETAILS AND SPECIFICATIONS 1
2.5	ROAD DETAILS AND SPECIFICATIONS 2
3.1	SEWER AND WATER PLAN
3.2	SEWER PROFILE
3.3	SEWER DETAILS
3.4	WATER CONNECTION DETAILS
3.5	WATER AND SEWER DETAILS AND SPECIFICATIONS
4.1	DRY UTILITY PLAN
5.1	STORMWATER MANAGEMENT PLAN
5.2	STORMWATER DETAILS & SPECIFICATIONS

- NOTE:
- CONTRACTOR/DEVELOPER IS RESPONSIBLE FOR ALL TESTING PRIOR TO ACCEPTANCE OF WATER AND SEWER MAINS BY THE CITY OF SANDPOINT.
 - LIVE TAPS TO WATER MAINS SHALL BE BY SANDPOINT WATER AT CONTRACTOR'S EXPENSE (72 HOURS NOTICE REQUIRED).



4.1 SITE LAYOUT
SCALE: AS SHOWN

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 SANDPOINT, IDAHO 83864
 (208) 263-4160

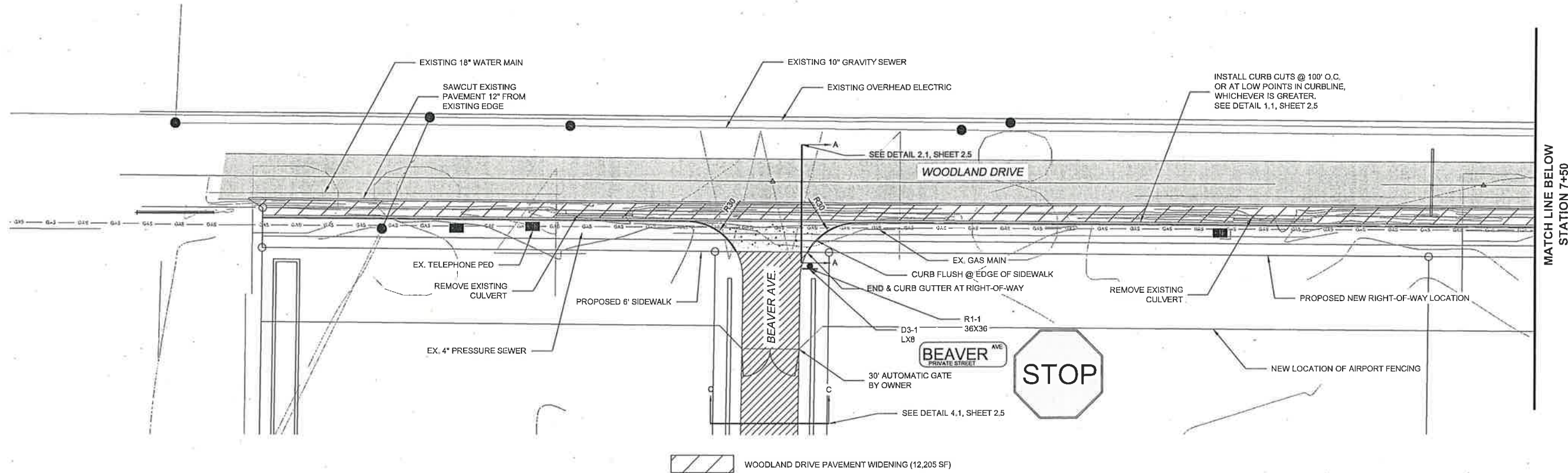
SHEET TITLE: VICINITY MAP, SITE LAYOUT, AND DRAWING INDEX
 PROJECT: NORTH ADDITION TO SANDPOINT AIRPARK
 CITY OF SANDPOINT, IDAHO

DATE: 11-08-17
 SCALE: AS SHOWN
 DESIGNED: TCB
 DRAWN: TCB
 CHECKED: TCB
 PROJ NO: 06122-17-001
 CAD FILE: E-SPT AIRPARK

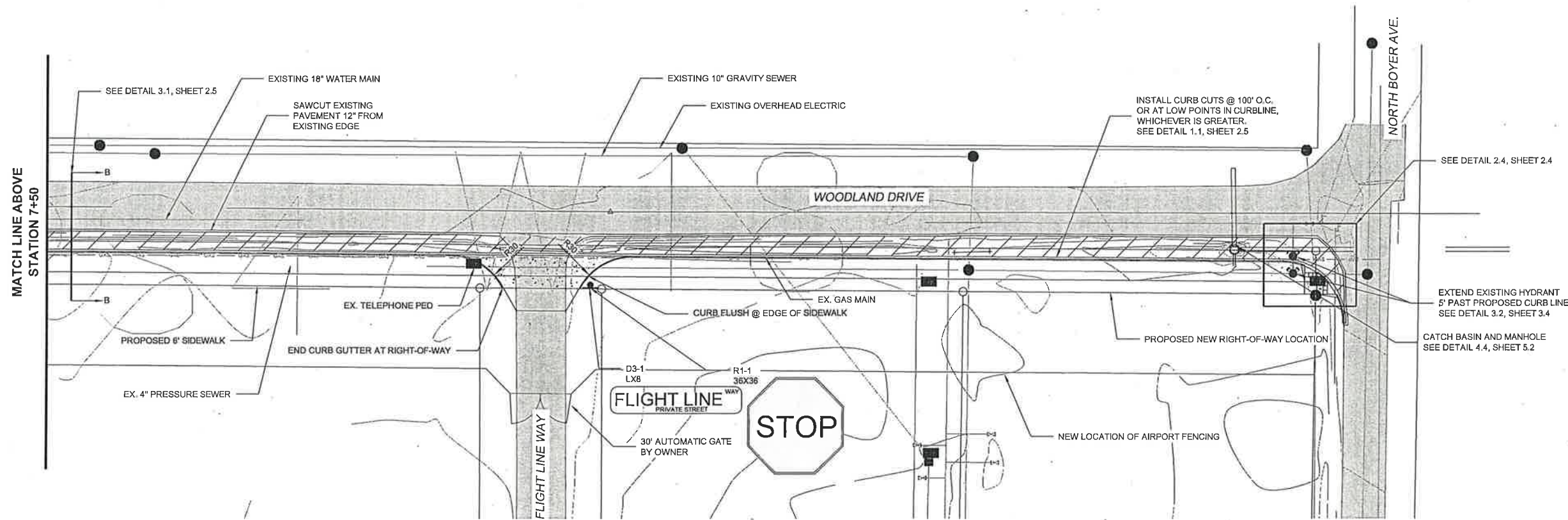
SHEET 1.1

No.	DATE	REVISION	DRWCHK

FOR AGENCY REVIEW



WOODLAND DRIVE PAVEMENT WIDENING (12,205 SF)



NOTE: CONTRACTOR SHALL PROVIDE ALL SIGNAGE WITHIN CITY RIGHT-OF-WAY TO CITY OF SANDPOINT FOR INSTALLATION, INCLUDING MOUNTING HARDWARE AND POLES.



4.1 WOODLAND DRIVE PLAN VIEWS
SCALE: AS SHOWN

NO.	DATE	REVISION	DRNCHK

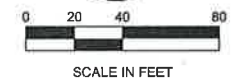
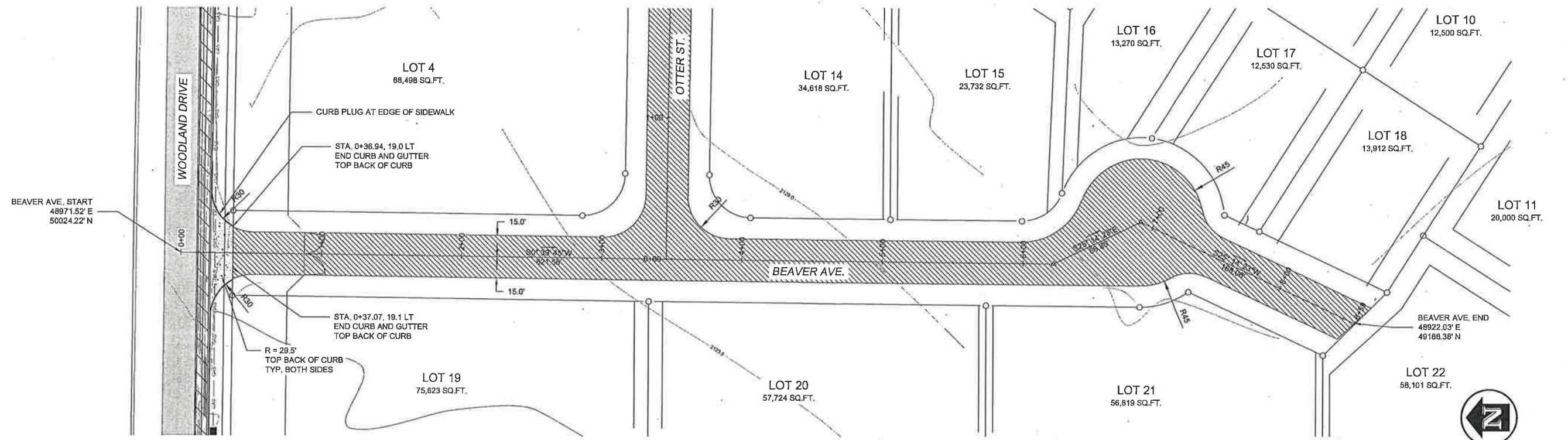
James A. Sewell and Associates, LLC
 1319 NORTH DIVISION
 SANDPOINT, IDAHO 83864
 (208) 263-4160

SHEET TITLE:
ROAD PLAN AND PROFILE
WOODLAND DRIVE
 PROJECT:
NORTH ADDITION TO
SANDPOINT AIRPARK
 CITY OF SANDPOINT, IDAHO

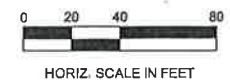
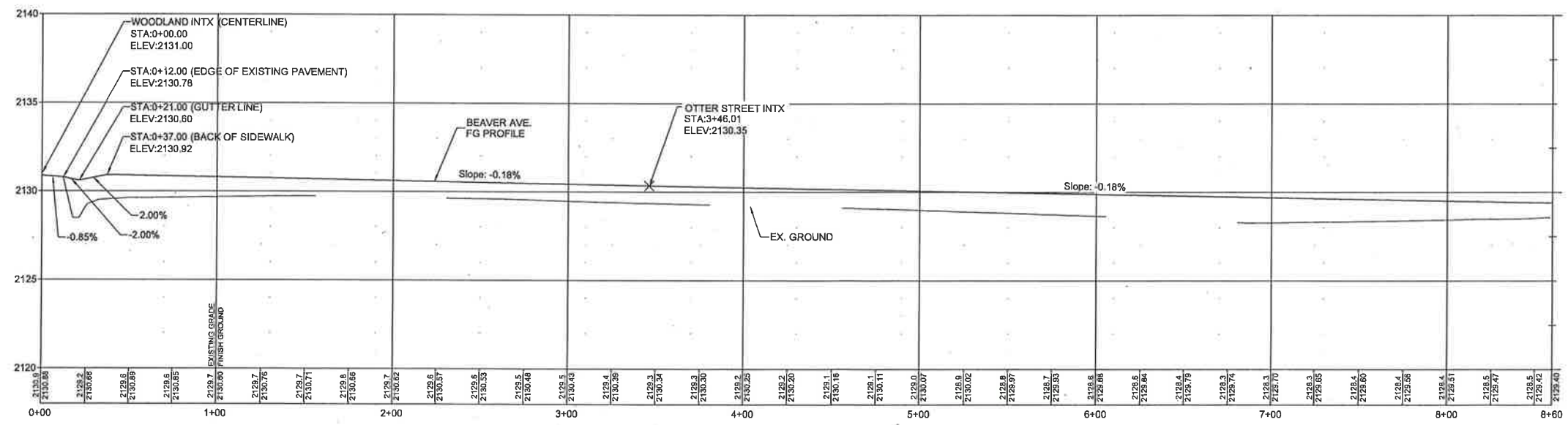
DATE: 11-06-17
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 DESIGNED: TCB
 DRAWN: TCB
 CHECKED: TCB
 PROJ NO.: 06122-17-001
 CAD FILE: E-SPT AIRPARK

SHEET **2.1**

FOR AGENCY REVIEW



2.1 BEAVER AVENUE PLAN VIEW
SCALE: AS SHOWN



4.1 BEAVER AVENUE PROFILE VIEW
SCALE: AS SHOWN

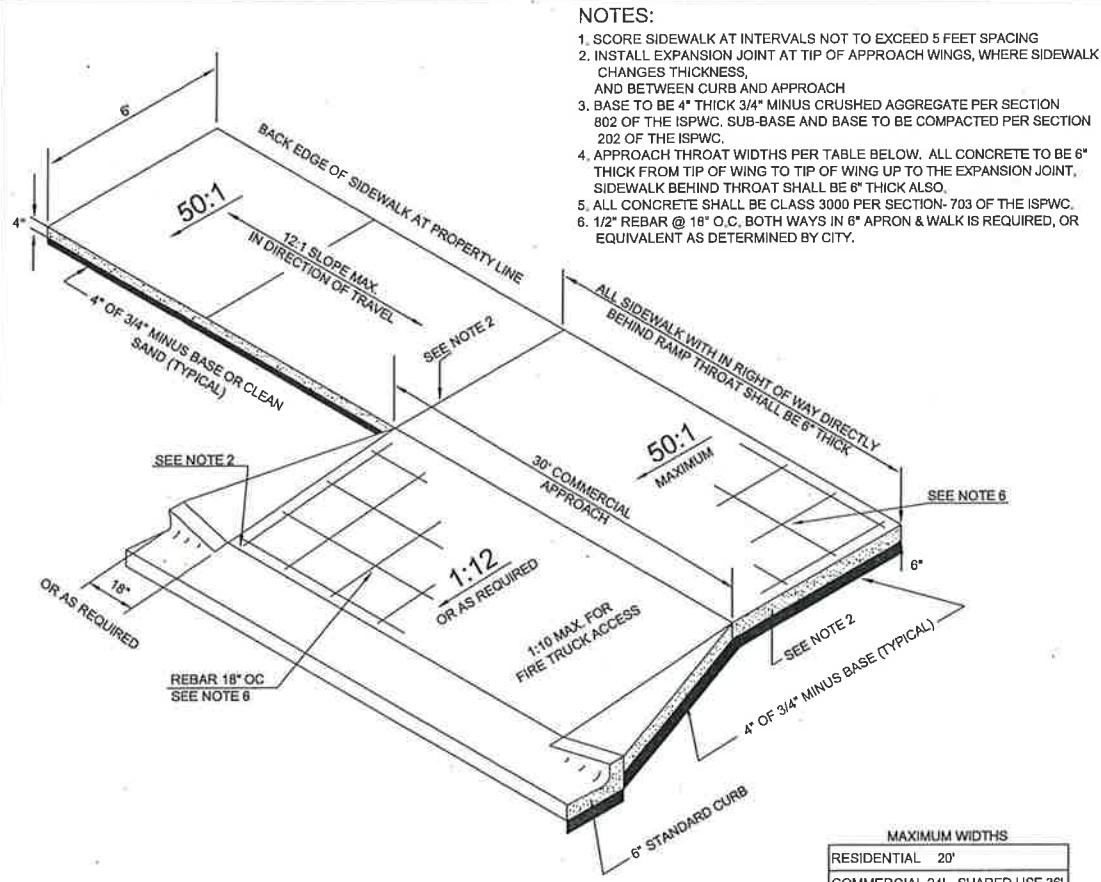
NO.	DATE	REVISION	DRW/CHK

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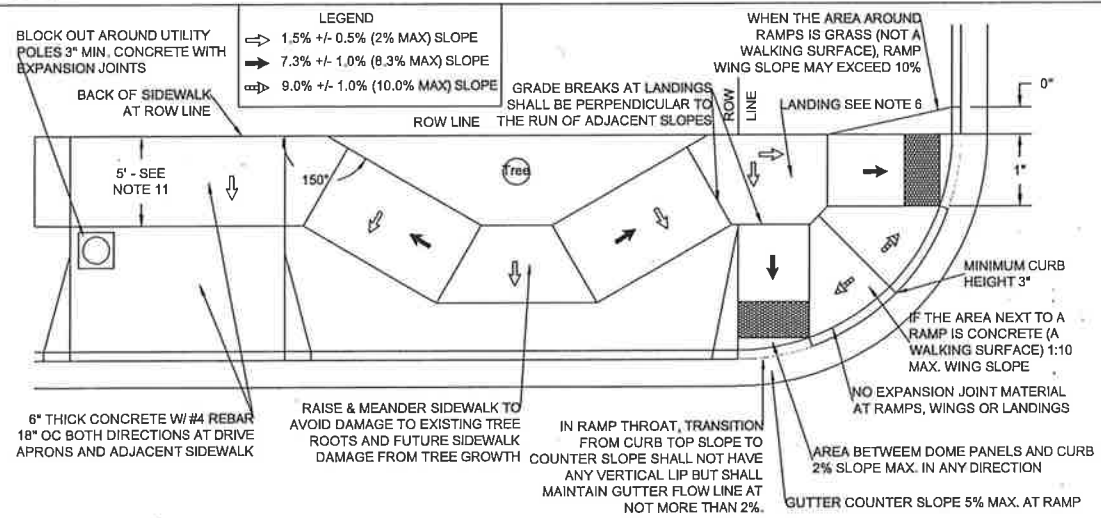


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ROAD PLAN AND PROFILE
BEAVER AVENUE
PROJECT:
NORTH ADDITION TO
SANDPOINT AIRPARK
CITY OF SANDPOINT, IDAHO
DATE: 11-06-17
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CAD FILE: E-SPT AIRPARK

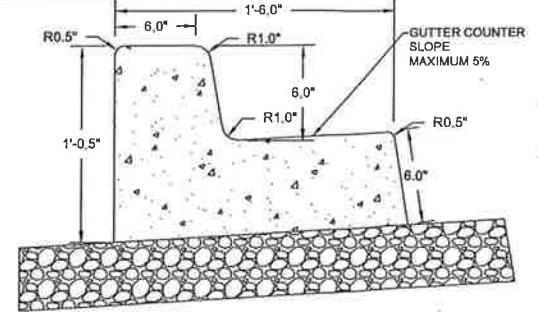
SHEET 2.2



2.1 CONCRETE DRIVEWAY APPROACH
SCALE: N.T.S.



4.1 SIDEWALK CORNER WITH RAMPS STANDARD DETAIL
SCALE: N.T.S.



2.3 CURB
SCALE: N.T.S.

ROAD AND PARKING CONSTRUCTION SPECIFICATIONS

GENERAL - ROAD CONSTRUCTION SHALL CONFORM TO THE CITY OF SANDPOINT STANDARDS. THE CONTRACTOR SHALL PROVIDE DUST CONTROL FOR CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL REPORT SIGNIFICANT CONFLICTS BETWEEN CONDITIONS SHOWN ON PLANS AND CONDITIONS ENCOUNTERED IN THE FIELD TO THE OWNER AND THE ENGINEER OR HIS REPRESENTATIVE. THE CONTRACTOR SHALL MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS.

CONSTRUCTION STAGING - A CONSTRUCTION STAGING AREA SHALL BE DELINEATED TO LIMIT CONSTRUCTION VEHICLE DISTURBANCES.

EXCESS EXCAVATION - EXCESS EXCAVATION SHALL BE PLACED WHERE DIRECTED BY THE ENGINEER.

MATERIAL STOCK PILES - ALL ERODABLE STOCK PILED MATERIALS SHALL BE COVERED WITH TARPS AND SECURED, OR THE BASE OF THE STOCK PILES SHALL BE SURROUNDED BY SILT FENCE.

DEWATERING - DURING DEWATERING OPERATIONS, WATER SHALL BE PUMPED INTO SEDIMENTATION BASINS OR SILT TRAPS. DEWATERING DIRECTLY INTO WETLANDS OR STORM WATER STRUCTURES IS PROHIBITED.

SUBGRADE MATERIAL - SUBGRADE MATERIAL SHALL BE COMPACTED TO A DENSITY NO LESS THAN 95% ASTM D-698 STANDARD PROCTOR DENSITY.

GEOTEXTILE - GEOTEXTILE FABRIC SHALL BE TENSAR GEO GRID OR ENGINEER APPROVED EQUAL.

PAVEMENT - ASPHALT PAVEMENT SHALL CONFORM TO IDAHO TRANSPORTATION DEPARTMENT STANDARD SPECIFICATION SECTION 702 FOR ASPHALT CONCRETE PAVEMENTS. CLASS III STANDARDS. THE PAVEMENT SURFACE SHALL BE COMPACTED TO A MINIMUM OF 92% OF THE RICE DENSITY. PAVEMENT THICKNESS SHALL BE AS SHOWN IN THE DETAILS.

BASE - TOP COURSE SHALL CONSIST OF 3/4" MINUS CRUSHED ROCK CONFORMING TO CITY OF SANDPOINT SPECIFICATIONS. MATERIAL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.

BALLAST - BALLAST PLACED IN THE RIGHT OF WAY SHALL BE CLASS I CAP ROCK AS PER ITD 703.08 SPECIFICATIONS. MATERIAL SHALL BE PLACED AND COMPACTED IN 6"-9" LIFTS.

COMPACTION - DENSITY TESTS SHALL BE PERFORMED FOR EVERY LIFT AT A MINIMUM FREQUENCY OF 300 LINEAR FEET, FOR ALL TESTABLE MATERIALS. SPECIAL ATTENTION SHALL BE PAID TO CURVE RETURNS, CUL DE SACS OR SENSITIVE AREAS. ALL TEST RESULTS SHALL BE MADE AVAILABLE TO THE ENGINEER AT THE TIME OF FINAL CONSTRUCTION INSPECTION.

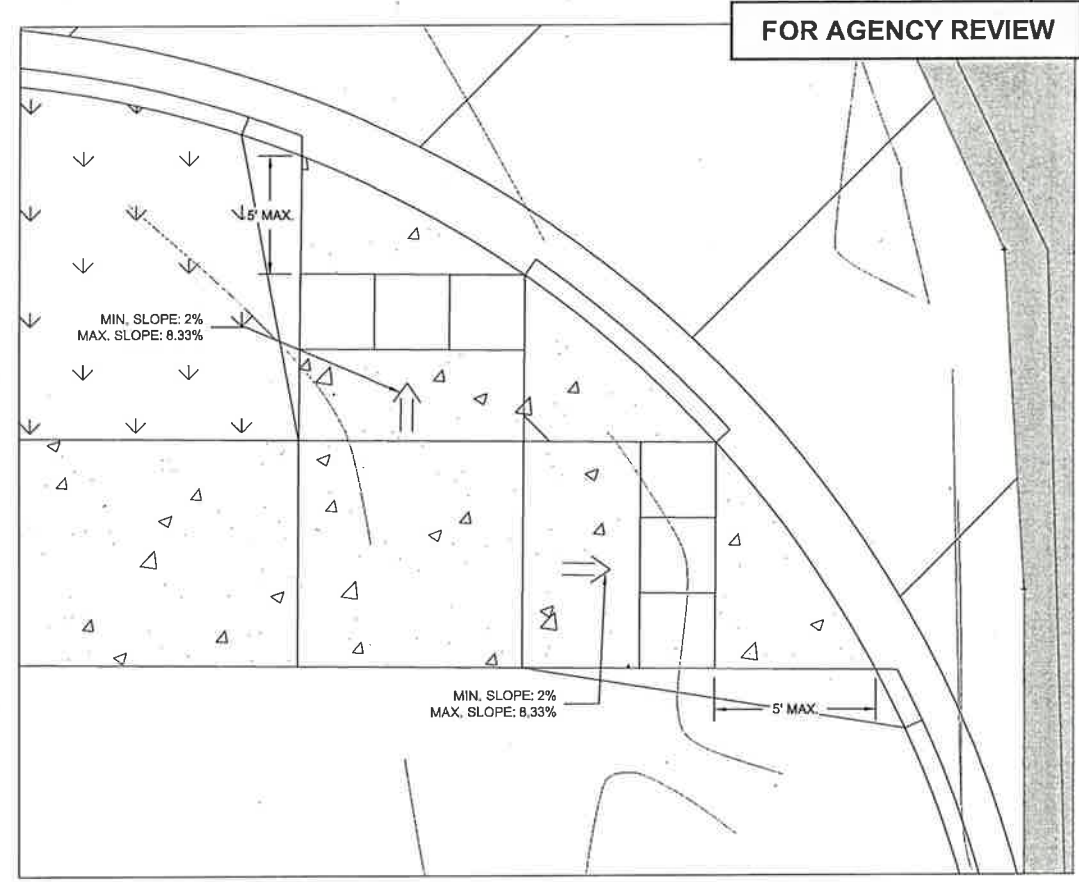
EROSION CONTROL - ALL AREAS DENUDE OF VEGETATION FROM CONSTRUCTION ACTIVITIES SHALL BE RESEED AS SOON AS POSSIBLE. DURING CONSTRUCTION, EROSION CONTROL MEASURES SHALL BE TAKEN AND MAINTAINED TO MINIMIZE SOIL EROSION FROM DISTURBED SITES. TEMPORARY AND PERMANENT EROSION CONTROL MEASURES CAN BE FOUND IN THE STORM WATER MANAGEMENT PLANS. THE CONTRACTOR SHALL WALK AND MAINTAIN EROSION CONTROL FACILITIES AFTER EACH RAINFALL EVENT.

CULVERTS - CULVERTS SHALL BE ADS TYPE N-12 OR CMP SIZED AS SHOWN ON THE PLANS. ADJUST CULVERT LOCATIONS TO MATCH DRAINAGE CHANNELS WHERE APPLICABLE.

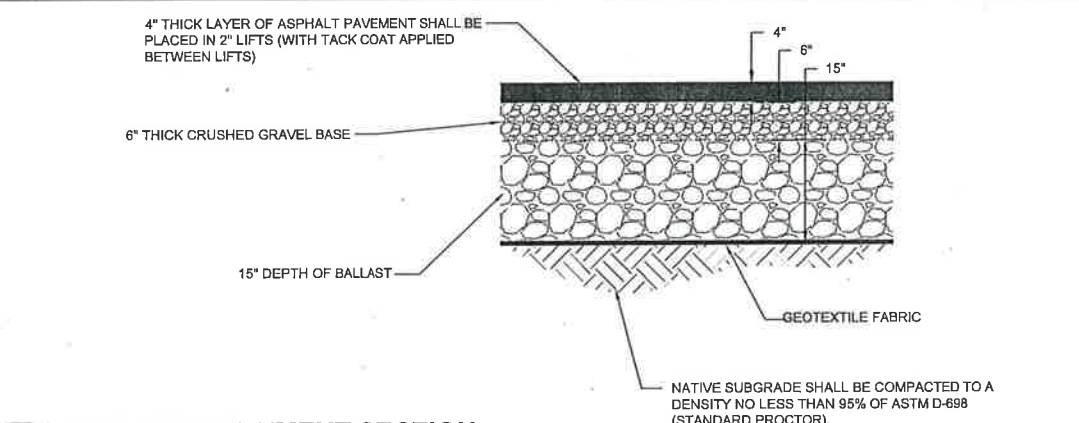
INSPECTIONS - INSPECTIONS SHALL BE SCHEDULED WITH THE ENGINEER AT LEAST 24 HOURS IN ADVANCE. MINIMUM INSPECTION REQUIREMENTS INCLUDE:

- COMPLETION OF ANY CONSTRUCTION SURVEYING AND STAKING.
- COMPLETION OF SUBGRADE, PRIOR TO THE PLACEMENT OF ANY BALLAST MATERIAL.
- COMPLETION OF BALLAST, PRIOR TO PLACEMENT OF ANY TOP COURSE MATERIAL.
- COMPLETION OF INSTALLATION OF ROAD SIGNS, INSTALLATION OF ANY APPURTENANT STRUCTURES, AND RESEEDING OF DISTURBED AREA AND SLOPES.

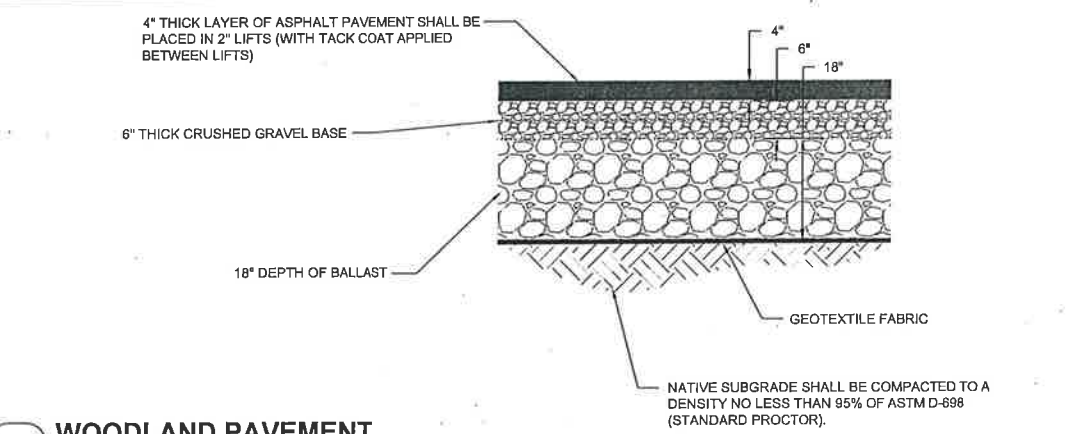
4.3 SPECIFICATIONS
SCALE: N.T.S.



2.4 PEDESTRIAN RAMP
SCALE: N.T.S.



3.4 TAXILANE PAVEMENT SECTION
SCALE: N.T.S.



4.4 WOODLAND PAVEMENT
SCALE: N.T.S.

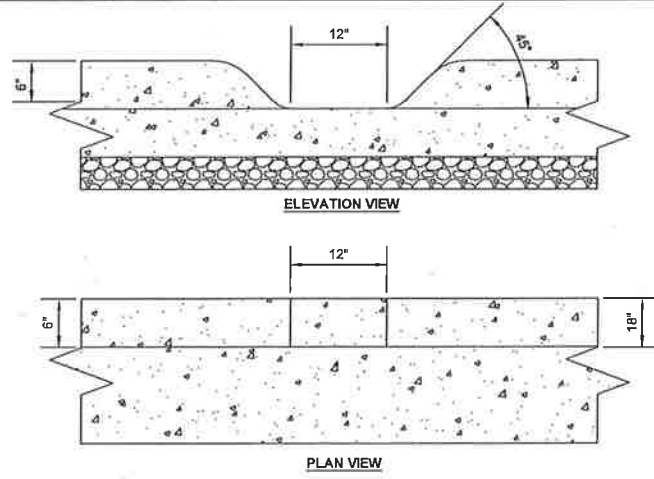
James A. Sewell and Associates, LLC

DATE: 11-06-17
SCALE: AS SHOWN
DESIGNED: TCB
DRAWN: TCB
CHECKED: TCB
PROJ NO: 06122-17-001
CAD FILE: E-SPT AIRPARK

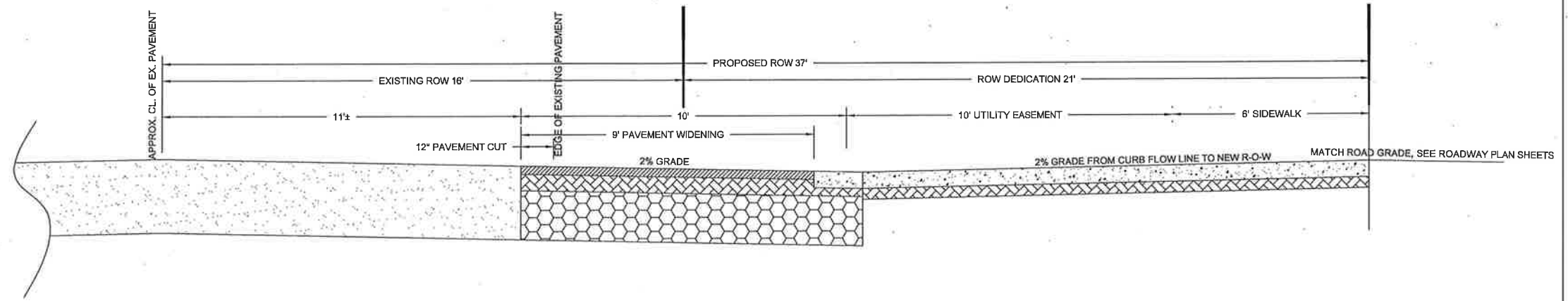
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PROJECT: NORTH ADDITION TO SANDPOINT AIRPARK
CITY OF SANDPOINT, IDAHO

SHEET **2.4**

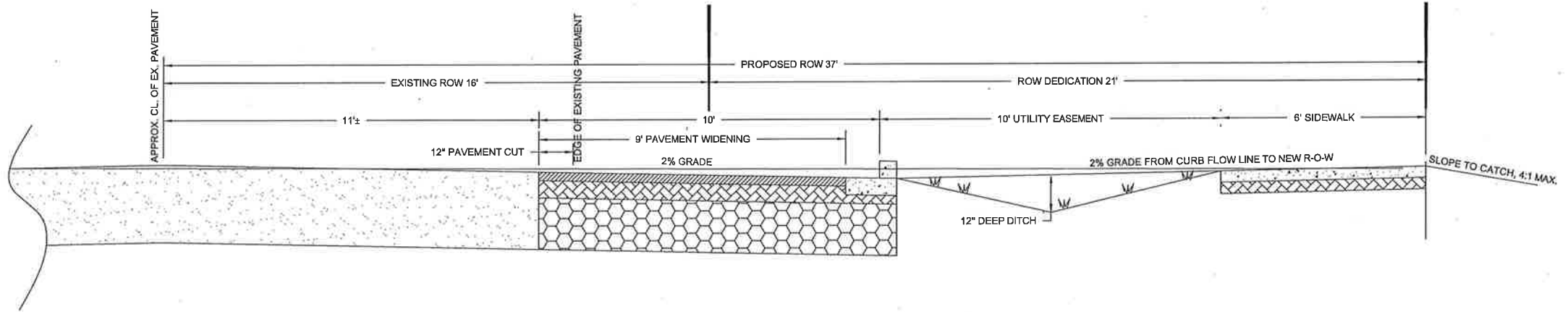
FOR AGENCY REVIEW



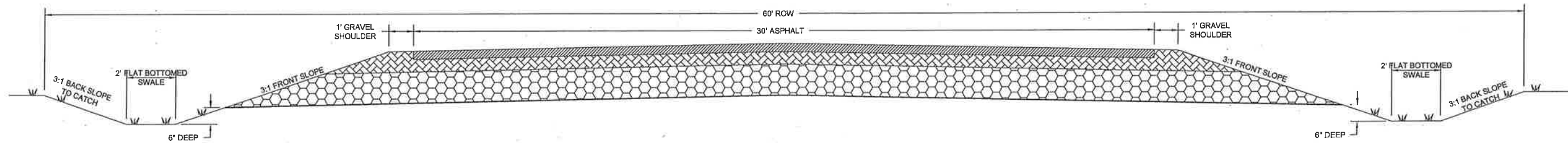
1.1 CURB CUT DETAIL
SCALE: N.T.S.



2.1 ROAD CROSS SECTION A
SCALE: N.T.S.



3.1 ROAD CROSS SECTION B
SCALE: N.T.S.



4.1 TYPICAL CROSS SECTION BEAVER AVE. & OTTER ST.
SCALE: N.T.S.

NO.	DATE	REVISION	DRNCHK

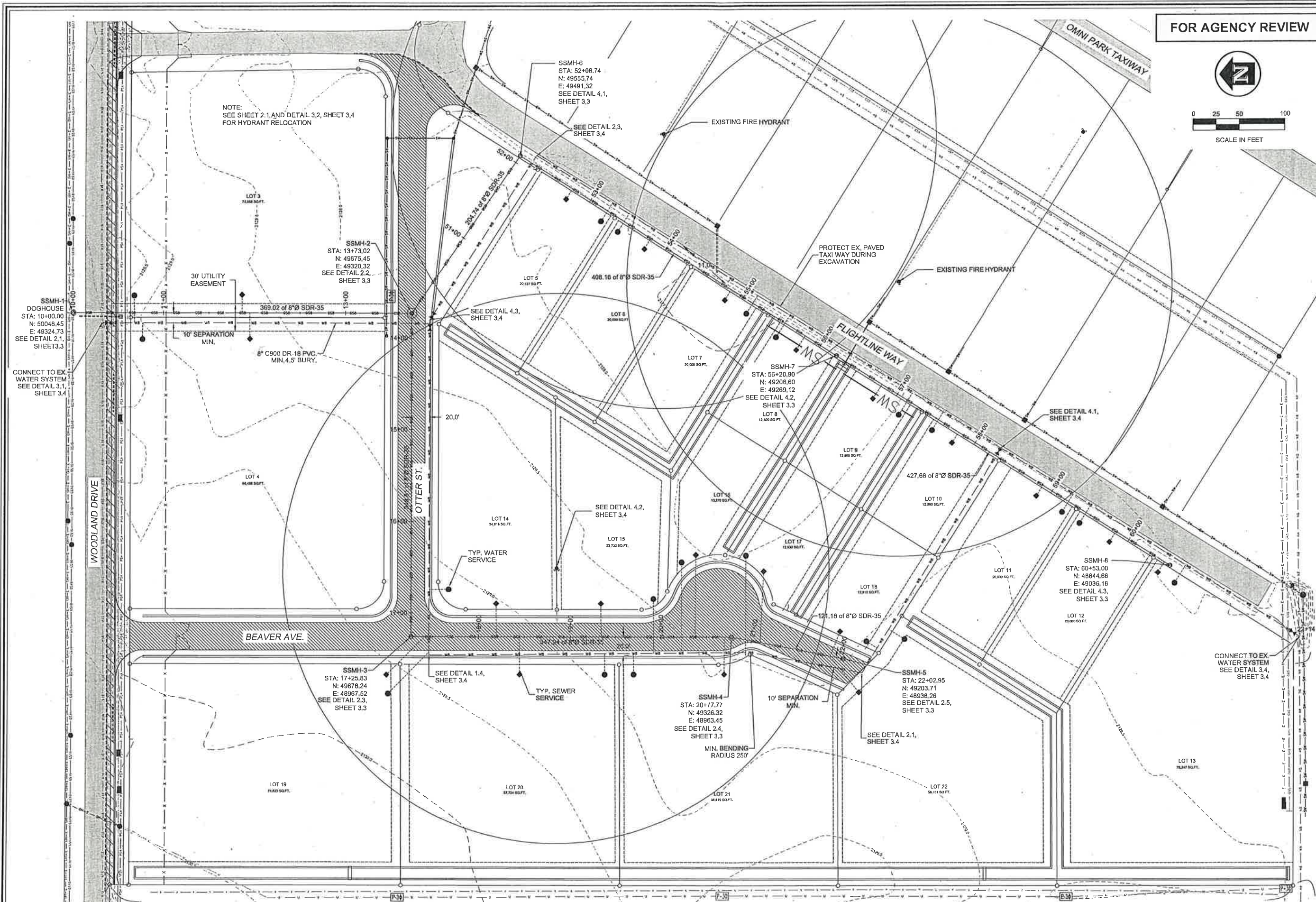
James A. Sewell and Associates, LLC

SHEET TITLE:
ROAD DETAILS AND SPECIFICATIONS 2

PROJECT:
NORTH ADDITION TO SANDPOINT AIRPARK CITY OF SANDPOINT, IDAHO

DATE: 11-06-17
SCALE: AS SHOWN
DESIGNED: TCB
DRAWN: TCB
CHECKED: TCB
PROJ NO: 06122-17-001
CAD FILE: E-SPT AIRPARK

SHEET **2.5**



FOR AGENCY REVIEW



0 25 50 100
SCALE IN FEET

4.1 SEWER AND WATER PLAN
SCALE: AS SHOWN

NO.	DATE	REVISION	DRW/CHK

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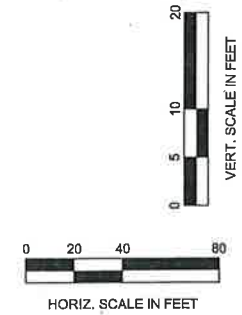
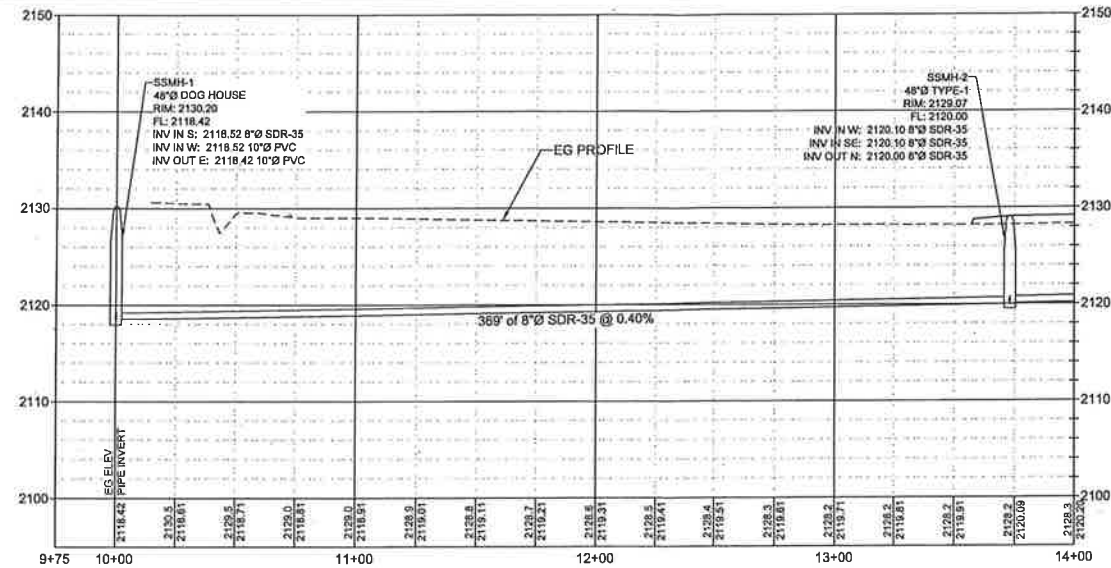
SEWER AND WATER PLAN
 PROJECT:
**NORTH ADDITION TO
 SANDPOINT AIRPARK
 CITY OF SANDPOINT, IDAHO**

SHEET TITLE:
SEWER AND WATER PLAN

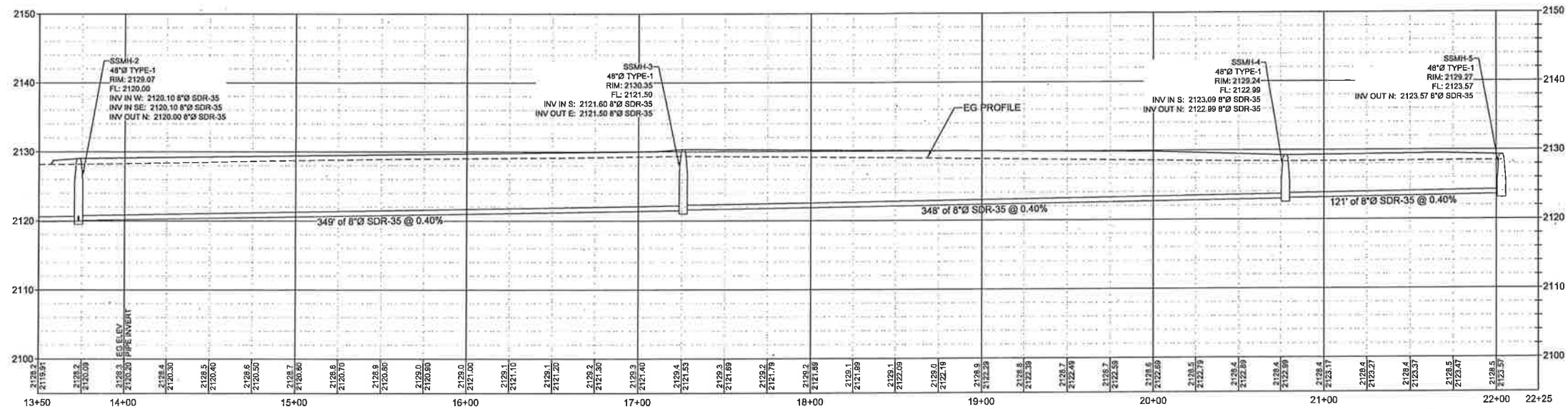
DATE: 11-06-17
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 CHECKED: TCB
 PROJ NO.: 06122-17-001
 CAD FILE: E-SPT AIRPARK

SHEET **3.1**

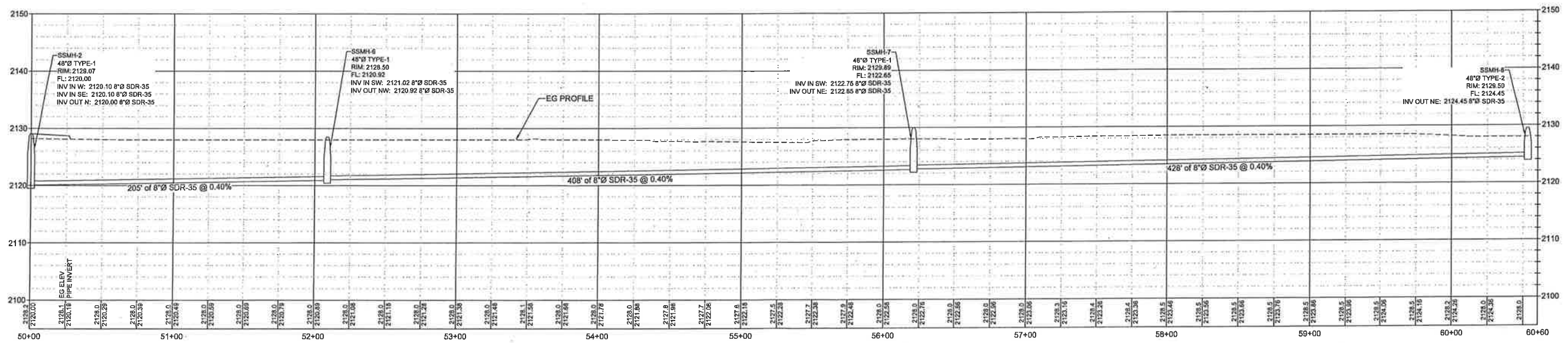
FOR AGENCY REVIEW



1.1 MH#1 - MH#2 PROFILE
SCALE: AS SHOWN



2.1 MH#2 - MH#5 PROFILE
SCALE: AS SHOWN



3.1 MH#2, MH#6 - MH#8 PROFILE
SCALE: AS SHOWN

No.	DATE	REVISION	DRWCHK

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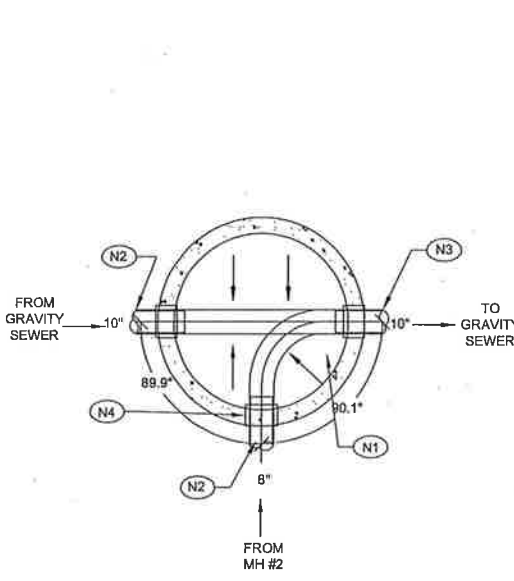
SEWER PROFILE
PROJECT:
**NORTH ADDITION TO
SANDPOINT AIRPARK
CITY OF SANDPOINT, IDAHO**

SHEET TITLE:
SEWER PROFILE

DATE: 11-06-17
SCALE: AS SHOWN
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PROJ NO: 06122-17-001
CAD FILE: E-SPT AIRPARK

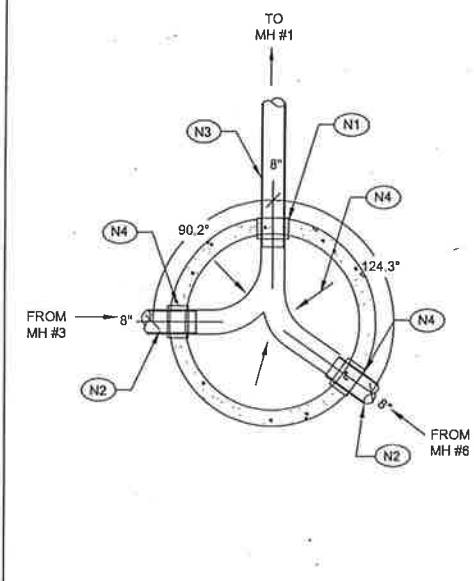
SHEET **3.2**

- (N1) SLOPE INVERT CONCRETE TO CHANNEL.
 - (N2) INLETS AS SHOWN ON PLANS.
 - (N3) OUTLET AS SHOWN ON PLANS.
 - (N4) CAST OR CORED PENETRATION WITH "KOR-N-SEAL" BOOT AND STAINLESS STEEL BANDS. TYPICAL ALL PENETRATIONS (INLETS AND OUTLETS).
- NOTE: "DOG HOUSE" EXISTING 10" SEWER MAIN.



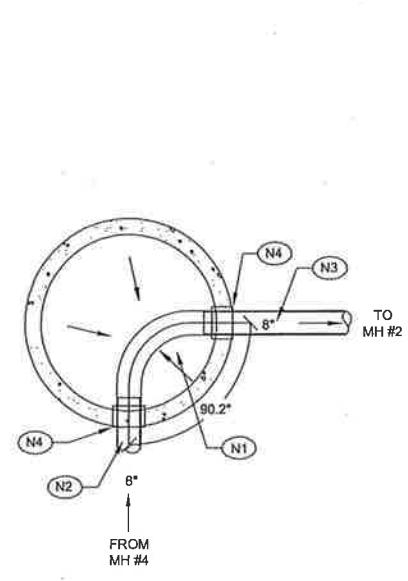
2.1 INVERT PLAN MH #1, STA. 10+00
SCALE: N.T.S.

- (N1) SLOPE INVERT CONCRETE TO CHANNEL.
- (N2) INLETS AS SHOWN ON PLANS.
- (N3) OUTLET AS SHOWN ON PLANS.
- (N4) CAST OR CORED PENETRATION WITH "KOR-N-SEAL" BOOT AND STAINLESS STEEL BANDS. TYPICAL ALL PENETRATIONS (INLETS AND OUTLETS).



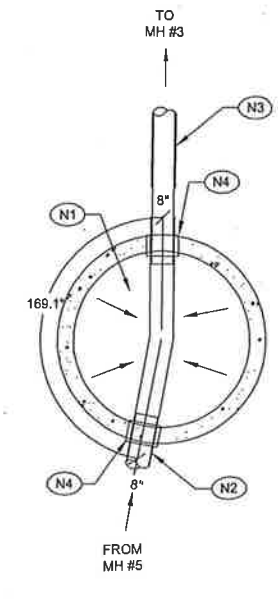
2.2 INVERT PLAN MH #2, STA. 13+73.02
SCALE: N.T.S.

- (N1) SLOPE INVERT CONCRETE TO CHANNEL.
- (N2) INLETS AS SHOWN ON PLANS.
- (N3) OUTLET AS SHOWN ON PLANS.
- (N4) CAST OR CORED PENETRATION WITH "KOR-N-SEAL" BOOT AND STAINLESS STEEL BANDS. TYPICAL ALL PENETRATIONS (INLETS AND OUTLETS).



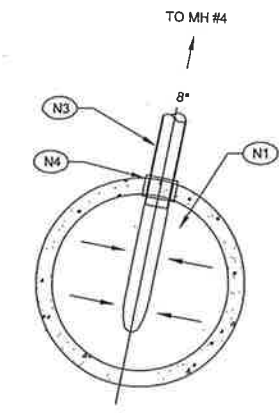
2.3 INVERT PLAN MH #3, STA. 17+25.83
SCALE: N.T.S.

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- (N2) INLETS AS SHOWN ON PLANS.
- (N3) OUTLET AS SHOWN ON PLANS.
- (N4) CAST OR CORED PENETRATION WITH "KOR-N-SEAL" BOOT AND STAINLESS STEEL BANDS. TYPICAL ALL PENETRATIONS (INLETS AND OUTLETS).



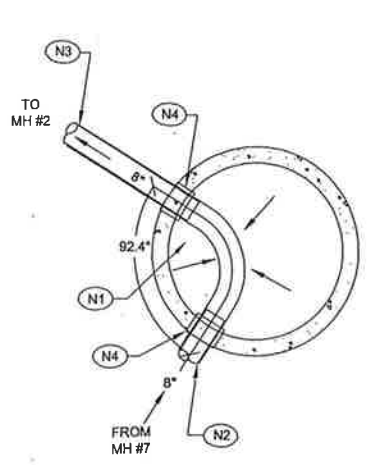
2.4 INVERT PLAN MH #4, STA. 20+77.77
SCALE: N.T.S.

- (N1) SLOPE INVERT CONCRETE TO CHANNEL.
- (N2) INLETS AS SHOWN ON PLANS.
- (N3) OUTLET AS SHOWN ON PLANS.
- (N4) CAST OR CORED PENETRATION WITH "KOR-N-SEAL" BOOT AND STAINLESS STEEL BANDS. TYPICAL ALL PENETRATIONS (INLETS AND OUTLETS).



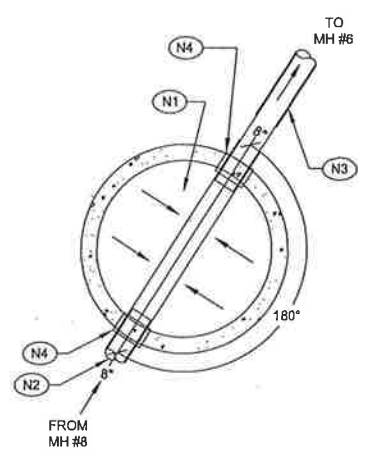
2.5 INVERT PLAN MH #5, STA. 22+02.95
SCALE: N.T.S.

- (N1) SLOPE INVERT CONCRETE TO CHANNEL.
- (N2) INLETS AS SHOWN ON PLANS.
- (N3) OUTLET AS SHOWN ON PLANS.
- (N4) CAST OR CORED PENETRATION WITH "KOR-N-SEAL" BOOT AND STAINLESS STEEL BANDS. TYPICAL ALL PENETRATIONS (INLETS AND OUTLETS).



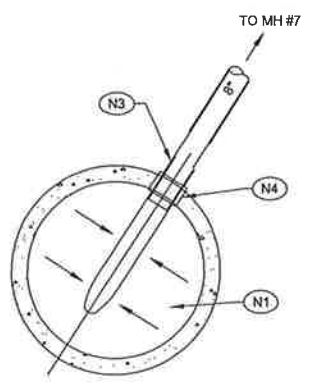
4.1 INVERT PLAN MH #6, STA. 52+08.74
SCALE: N.T.S.

- (N1) SLOPE INVERT CONCRETE TO CHANNEL.
- (N2) INLETS AS SHOWN ON PLANS.
- (N3) OUTLET AS SHOWN ON PLANS.
- (N4) CAST OR CORED PENETRATION WITH "KOR-N-SEAL" BOOT AND STAINLESS STEEL BANDS. TYPICAL ALL PENETRATIONS (INLETS AND OUTLETS).



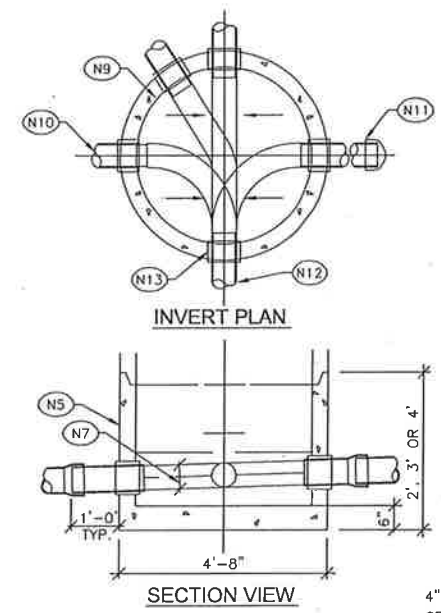
4.2 INVERT PLAN MH #7, STA. 56+20.87
SCALE: N.T.S.

- (N1) SLOPE INVERT CONCRETE TO CHANNEL.
- (N2) INLETS AS SHOWN ON PLANS.
- (N3) OUTLET AS SHOWN ON PLANS.
- (N4) CAST OR CORED PENETRATION WITH "KOR-N-SEAL" BOOT AND STAINLESS STEEL BANDS. TYPICAL ALL PENETRATIONS (INLETS AND OUTLETS).



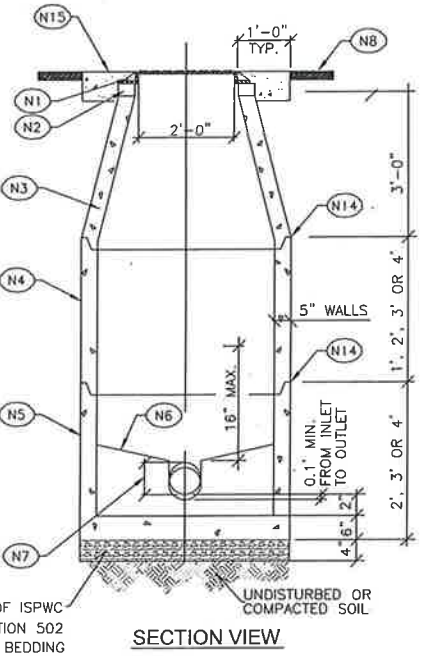
4.3 INVERT PLAN MH #8, STA. 60+33.00
SCALE: N.T.S.

- (N1) APPROVED CAST IRON RING AND LID COMPLYING WITH IFCO 828 AND THE CITY OF SANDPOINT SEWER DISTRICT SPECIAL DESIGN AND REQUIREMENTS EAST JORDAN IRON WORKS ERGO 24" DI CAM SANITARY SEWER HINGED HHFC DOMESTIC RING & LID RECOMMENDED
- (N2) 3", 4" OR 6" RISERS USED WHEN NEEDED TO MEET GRADE.
- (N3) 48" TO 24" CONCENTRIC REDUCING MANHOLE CONE
- (N4) 48" Ø BARREL SECTION.
- (N5) BASE SECTION.
- (N6) SHELF SLOPE 1"/FT



4.4 TYPICAL MANHOLE DETAIL
SCALE: N.T.S.

- (N7) CHANNEL DEPTH = 1.0 PIPE DIAMETER.
- (N8) ASPHALT ROADWAY
- (N9) SLOPE INVERT CONCRETE TO CHANNEL.
- (N10) INLETS AS SHOWN ON PLANS.
- (N11) LINE SIZE STUB AND CAP AS SHOWN ON PLAN VIEW
- (N12) OUTLET AS SHOWN ON PLANS.
- (N13) CAST OR CORED PENETRATION WITH "KOR-N-SEAL" BOOT AND STAINLESS STEEL BANDS. TYPICAL ALL PENETRATIONS (INLETS AND OUTLETS).



4.4 TYPICAL MANHOLE DETAIL
SCALE: N.T.S.

FOR AGENCY REVIEW

NO.	DATE	REVISED PER AGENCY COMMENTS	DRN/CHK
1	2-14-2018		JFO/TCB

James A. Sewell and Associates, LLC
1319 NORTH DIVISION
SANDPOINT, IDAHO 83864
(208) 263-4160

SHEET TITLE:
SEWER DETAILS

PROJECT:
NORTH ADDITION TO
SANDPOINT AIRPARK
CITY OF SANDPOINT, IDAHO

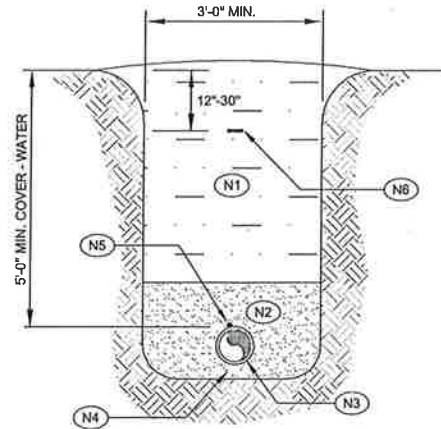
DATE: 11-08-17
SCALE: AS SHOWN
DESIGNED: TCB
DRAWN: TCB
CHECKED: TCB
PROJ NO.: 06122-17-001
CAD FILE: E-SPT AIRPARK

SHEET **3.3**

NOTES FOR TRENCH DETAIL

- (N1) BACKFILL WITH NATIVE MATERIAL TO DENSITY AS SPECIFIED.
- (N2) IN ROCK EXCAVATION, 12" ABOVE AND 6" BELOW PIPE SHALL BE BEDDED W/SAND.
- (N3) BURIED PIPELINE
- (N4) AREA WITHIN 4" BELOW AND 6" ABOVE PIPE SHALL BE BEDDED WITH 3/4" MINUS CRUSHED AGGREGATED OR SAND BEDDING.
- (N5) 12 GAUGE TONING WIRE FOR TRACING PURPOSES. ATTACH TO TOP OF THE PIPE (TYP 3 PLACES).
- (N6) MARKER TAPE (BLUE)

NOTE: BACKFILL AND BEDDING TO BE COMPACTED TO 95% OF MDD IN ROADWAYS AND 90% OF MDD IN OPEN GROUND.

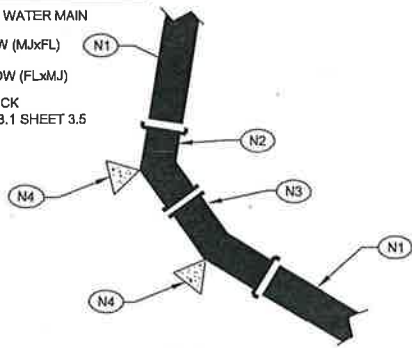


1.1 TYPICAL TRENCH DETAIL

SCALE: NOT TO SCALE

NOTES FOR WATER CONNECTION DETAIL

- (N1) 8" C900 PVC WATER MAIN
- (N2) 8" 45° ELBOW (MJxFL)
- (N3) 8" 22.5° ELBOW (FLxMJ)
- (N4) THRUST BLOCK SEE DETAIL 3.1 SHEET 3.5

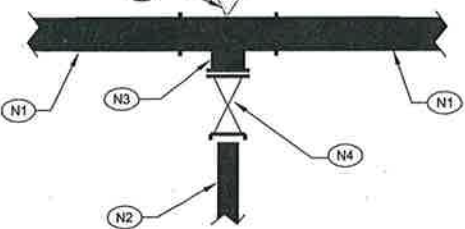


2.1 WATER INTERCONNECTION STA. 18+28

SCALE: NOT TO SCALE

NOTES FOR WATER CONNECTION DETAIL

- (N1) EXISTING 18" C900 PVC WATER MAIN
- (N2) 8" C900 PVC WATER MAIN
- (N3) MAINLINE SIZED X 8" SADDLE TAP
- (N4) 8" D.I. MJ X FL GATE VALVE
- (N5) THRUST BLOCK SEE DETAIL 3.1 SHEET 3.5

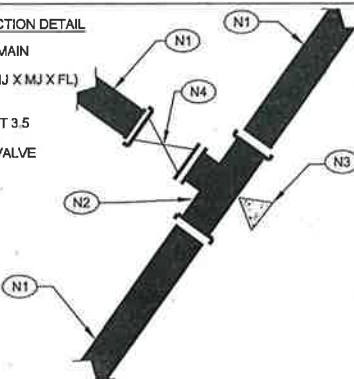


3.1 CONNECTION TO EXISTING WATER LINE STA. 10+32

SCALE: NOT TO SCALE

NOTES FOR WATER CONNECTION DETAIL

- (N1) 8" C900 PVC WATER MAIN
- (N2) 8" X 8" X 8" D.I. TEE (MJ X MJ X FL)
- (N3) THRUST BLOCK SEE DETAIL 3.1 SHEET 3.5
- (N4) 8" D.I. MJ X FL GATE VALVE

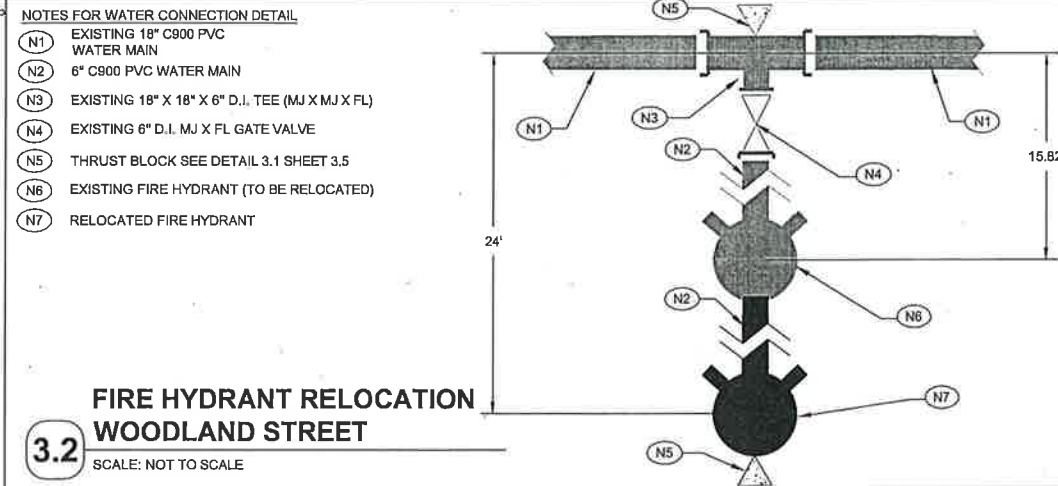


4.1 WATER INTERCONNECTION STA. 58+27

SCALE: NOT TO SCALE

NOTES FOR WATER CONNECTION DETAIL

- (N1) EXISTING 18" C900 PVC WATER MAIN
- (N2) 6" C900 PVC WATER MAIN
- (N3) EXISTING 18" X 18" X 6" D.I. TEE (MJ X MJ X FL)
- (N4) EXISTING 6" D.I. MJ X FL GATE VALVE
- (N5) THRUST BLOCK SEE DETAIL 3.1 SHEET 3.5
- (N6) EXISTING FIRE HYDRANT (TO BE RELOCATED)
- (N7) RELOCATED FIRE HYDRANT

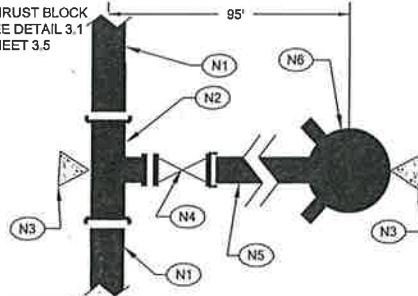


3.2 FIRE HYDRANT RELOCATION WOODLAND STREET

SCALE: NOT TO SCALE

NOTES FOR WATER CONNECTION DETAIL

- (N1) 8" C900 PVC WATER MAIN
- (N2) 8" X 8" X 8" D.I. TEE (MJ X MJ X FL)
- (N3) THRUST BLOCK SEE DETAIL 3.1 SHEET 3.5
- (N4) 6" D.I. MJ X FL GATE VALVE
- (N5) 6" C900 PVC PIPE
- (N6) FIRE HYDRANT



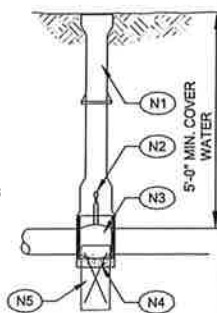
4.2 FIRE HYDRANT STA. 18+85

SCALE: NOT TO SCALE

NOTES FOR GATE VALVE DETAIL

- (N1) CAST IRON VALVE BOX (I.F.C.O. No. 3-C, No. 923-R-(A OR B) BOX AND No. 923-(A,B,C OR D) EXTENSION PIPE
- (N2) 2" OPERATOR NUT
- (N3) RESILIENT SEAT GATE VALVE
- (N4) 8" X 8" X 2" CONC. BLOCK (4" AND SMALLER GATE VALVE)
- (N5) CONCRETE THRUST BLOCK WITH REBAR STRAPS (6" AND LARGER GATE VALVE). THRUST BLOCK TO BE SIZED IN ACCORDANCE WITHES AND ELBOWS OF THRUST BLOCK TABLE.

NOTE: THRUST BLOCK NOT REQUIRED WHEN VALVE IS BOLTED TO A FITTING.

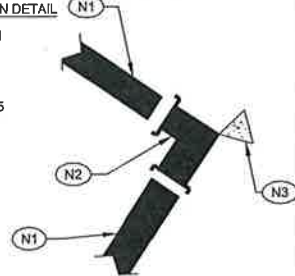


1.3 GATE VALVE DETAIL

SCALE: NOT TO SCALE

NOTES FOR WATER CONNECTION DETAIL

- (N1) 8" C900 PVC WATER MAIN
- (N2) 8" X 8" D.I. 90° (MJ)
- (N3) THRUST BLOCK SEE DETAIL 3.1 SHEET 3.5

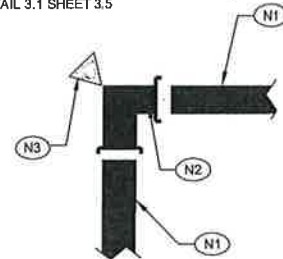


2.3 WATER INTERCONNECTION STA. 52+24

SCALE: NOT TO SCALE

NOTES FOR WATER CONNECTION DETAIL

- (N1) 8" C900 PVC WATER MAIN
- (N2) 8" X 8" D.I. 90° (MJ)
- (N3) THRUST BLOCK SEE DETAIL 3.1 SHEET 3.5

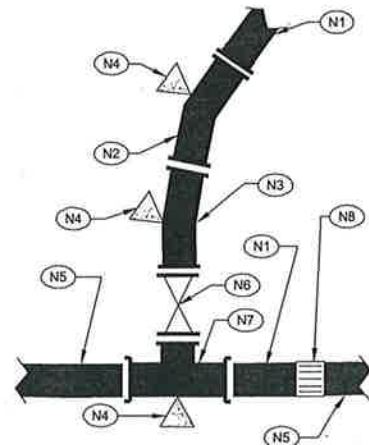


1.4 WATER INTERCONNECTION STA. 17+46

SCALE: NOT TO SCALE

NOTES FOR WATER CONNECTION DETAIL

- (N1) 8" C900 PVC WATER MAIN
- (N2) 8" 22.5° ELBOW (MJxFL)
- (N3) 8" 11.25° ELBOW (FLxMJ)
- (N4) THRUST BLOCK SEE DETAIL 3.1 SHEET 3.5
- (N5) EXISTING 8" C900 PVC WATER MAIN
- (N6) 8" D.I. FL X FL GATE VALVE
- (N7) 8" X 8" X 8" D.I. TEE (MJxMJxFL)
- (N8) 8" COMPRESSION COUPLER

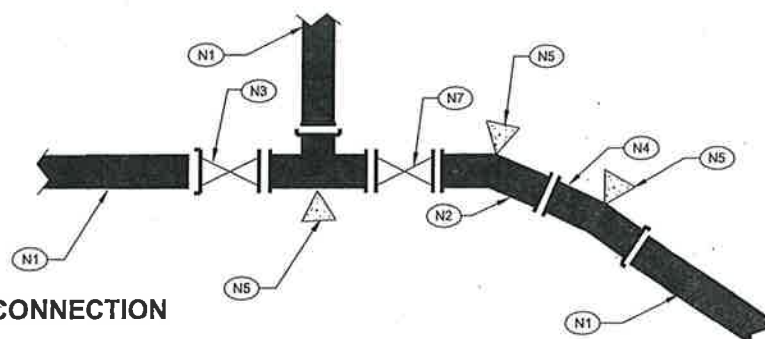


3.4 CONNECTION TO EXISTING WATER LINE

SCALE: NOT TO SCALE

NOTES FOR WATER CONNECTION DETAIL

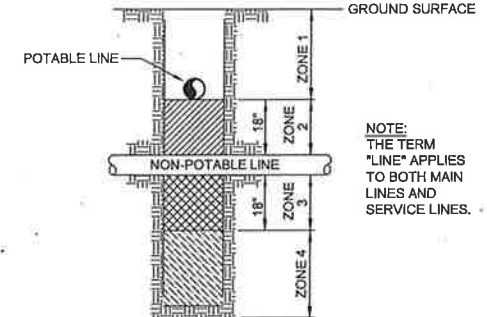
- (N1) 8" C900 PVC WATER MAIN
- (N2) 8" 22.5° ELBOW (MJxFL)
- (N3) 8" D.I. MJ X FL GATE VALVE
- (N4) 8" 11.25° ELBOW (FLxMJ)
- (N5) THRUST BLOCK SEE DETAIL 3.1 SHEET 3.5
- (N6) 8" X 8" X 8" D.I. TEE (MJ)
- (N7) 8" D.I. FL X FL GATE VALVE



4.3 WATER INTERCONNECTION STA. 13+84

SCALE: NOT TO SCALE

VERTICAL SEPARATION REQUIREMENTS



NOTE: THE TERM "LINE" APPLIES TO BOTH MAIN LINES AND SERVICE LINES.

ZONE 1: A). POTABLE WATER AND NON-POTABLE MAINS AND SERVICE LINES MUST BE SEPARATED BY AT LEAST 18 INCHES, AND B). ONE FULL, UNCUT LENGTH OF NON-POTABLE PIPE MUST BE CENTERED ON THE CROSSING SO THAT THE JOINTS ARE AS FAR AS POSSIBLE FROM THE CROSSING.

ZONE 2: POTABLE LINE <18" OVER TOP OF NON-POTABLE LINE.

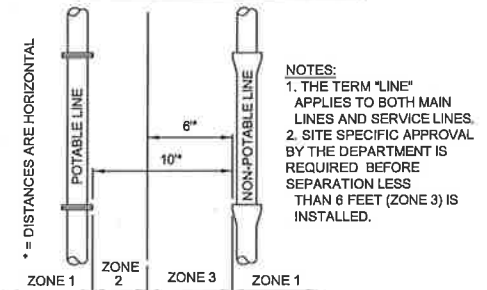
EITHER A). ONE FULL, UNCUT LENGTH OF NON-POTABLE WATER PIPE MUST BE CENTERED ON THE CROSSING SO THAT THE JOINTS ARE AS FAR AS POSSIBLE FROM THE NON-POTABLE LINE, AND B). NON-POTABLE LINE MUST BE CONSTRUCTED TO POTABLE WATER PIPE STANDARDS AND PRESSURE TESTED FOR WATER TIGHTNESS FOR A HORIZONTAL DISTANCE OF 10 FEET ON BOTH SIDES OF THE CROSSING, OR C). NON-POTABLE OR POTABLE LINE MUST BE CASED IN A LARGER DIAMETER CARRIER PIPE FOR A HORIZONTAL DISTANCE OF 10 FEET ON BOTH SIDES OF THE CROSSING, WITH NO JOINTS.

ZONE 3: SAME REQUIREMENTS AS ZONE 2 EXCEPT THE NON-POTABLE LINE MUST ALSO BE SUPPORTED ABOVE THE CROSSING TO PREVENT SETTLING.

ZONE 4: SAME REQUIREMENTS AS ZONE 1 EXCEPT THE NON-POTABLE LINE MUST ALSO BE SUPPORTED ABOVE THE CROSSING TO PREVENT SETTLING.

SEWAGE FORCE MAINS SHALL HAVE AT LEAST EIGHTEEN INCHES OF CLEARANCE FROM POTABLE WATER MAINS AND ZONE 2 AND 3 PLACEMENTS ARE PROHIBITED. SEPARATION REQUIREMENTS ALSO APPLY TO POTABLE AND NON-POTABLE SERVICE LINES CONTROLLED BY THE SYSTEM OWNER AND EXTENDING TO THE PROPERTY LINE, SERVICE METER, OR CLEANOUT. REFER TO IDAPA 58.01.08.542.07: IDAHO RULES FOR PUBLIC DRINKING WATER SYSTEMS AND IDAPA 58.01.16.430.0: IDAHO WASTEWATER RULES.

HORIZONTAL SEPARATION REQUIREMENTS



ZONE 1: MORE THAN 10 FEET APART: A). NO SPECIAL REQUIREMENTS.

ZONE 2: FROM 6 TO 10 FEET APART: A). NO SPECIAL REQUIREMENTS FOR SERVICE LINES. B). POTABLE AND NON-POTABLE MAINS SEPARATED BY AT LEAST 6 FEET AT OUTSIDE WALLS, AND C). POTABLE MAINS HIGHER IN ELEVATION THAN THE NON-POTABLE MAINS, AND D). NON-POTABLE MAINS CONSTRUCTED WITH POTABLE WATER CLASS PIPE AND PRESSURE TESTED FOR WATER-TIGHTNESS.

ZONE 3: CLOSER THAN 6 FEET APART: A). FOR MAINS AND SERVICES, DESIGN ENGINEER TO SUBMIT DATA TO DEPARTMENT FOR REVIEW AND APPROVAL THAT THIS INSTALLATION WILL PROTECT PUBLIC HEALTH AND ENVIRONMENT AND NON-POTABLE LINE CONSTRUCTED WITH POTABLE WATER CLASS PIPE

FOR DETAILS REFER TO IDAPA 58.01.08.542.07: IDAHO RULES FOR PUBLIC DRINKING WATER SYSTEMS OR IDAPA 58.01.16.430.0: IDAHO WASTEWATER RULES.

SEWAGE FORCE MAINS SHALL HAVE AT LEAST TEN FEET OF HORIZONTAL SEPARATION FROM POTABLE MAINS - ZONE 2 AND ZONE 3 PLACEMENTS ARE PROHIBITED.

HORIZONTAL SEPARATION REQUIREMENTS ALSO APPLY TO POTABLE AND NON-POTABLE SERVICE LINES CONTROLLED BY THE SYSTEM OWNER AND EXTENDING THE MAIN LINE TO THE PROPERTY LINE, SERVICE METER, OR CLEANOUT.

4.5 WATER & SEWER LINE SEPARATION

SCALE: N.T.S.

NO.	DATE	REVISION	COMMENTS
1	2-14-2018		REVISED PER AGENCY COMMENTS

James A. Sewell and Associates, LLC
 1319 NORTH DIVISION
 SANDPOINT, IDAHO 83864
 (208) 263-4160

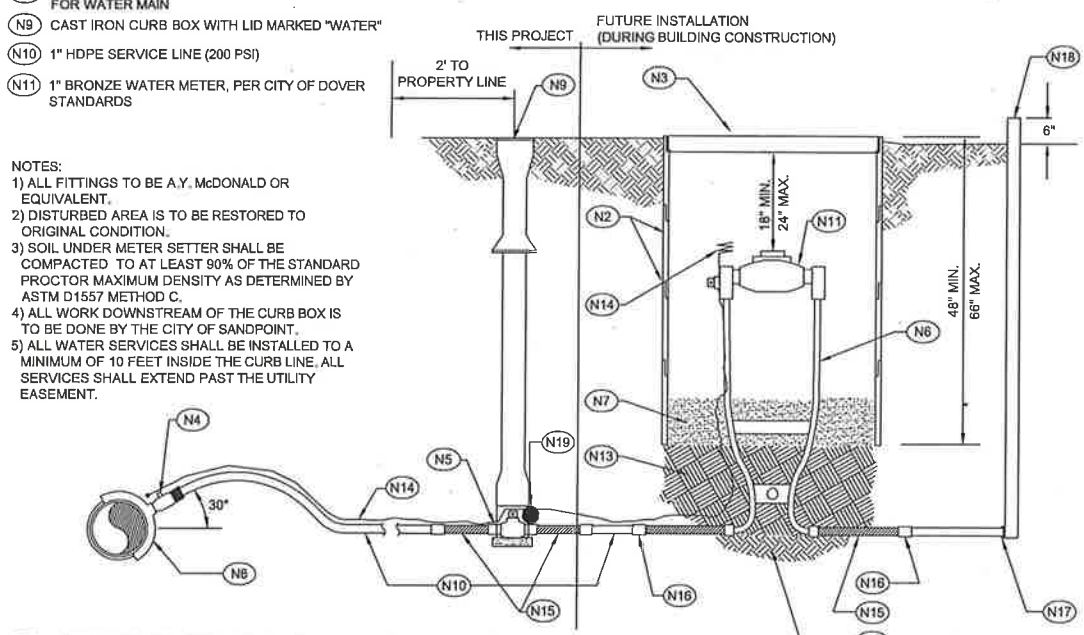


WATER CONNECTION DETAILS
 PROJECT: NORTH ADDITION TO SANDPOINT AIRPARK CITY OF SANDPOINT, IDAHO

SHEET TITLE:	WATER CONNECTION DETAILS
DATE:	11-06-17
SCALE:	AS SHOWN
DESIGNED:	TCB
DRAWN:	TCB
CHECKED:	TCB
PROJ NO.:	06122-17-001
CAD FILE:	E-SPT AIRPARK

SHEET **3.4**

- (N1) BROOKS B37 BOXES (4 TOTAL TO ACHIEVE 48" OF DEPTH)
- (N2) BROOKS 37S CONCRETE LID WITH ACCESS PORT AND DROP IN CAST AMR HOLES
- (N3) FINISHED GRADE
- (N4) 1" MIPT x 1" IPS COMPRESSION CORP STOP
- (N5) 1" NO LEAD McDONALD CURB STOP
- (N6) 1" COPPER McDONALD METER SETTER
- (N7) GRANULAR FILL WITHIN 6" OF METER
- (N8) 1" ROMAC STAINLESS DOUBLE STRAP SADDLE TAP SIZED FOR WATER MAIN
- (N9) CAST IRON CURB BOX WITH LID MARKED "WATER"
- (N10) 1" HOPE SERVICE LINE (200 PSI)
- (N11) 1" BRONZE WATER METER, PER CITY OF DOVER STANDARDS
- (N12) UNDISTURBED NATIVE SOIL OR COMPACTED BASE FOR METER SETTER.
- (N13) BED METER SETTER W/ SAND, BACKFILL WITH COMPACTION
- (N14) 12 GA. TONING WIRE, SPLICE WITH HEAT SHRINK CONNECTORS.
- (N15) 12" LONG BRASS PIPE, EACH SIDE OF METER SETTER
- (N16) 1" PACK JOINT ADAPTOR WITH POLY INSERT
- (N17) 1" CAP UNTIL SERVICE USE
- (N18) 2 X 4 MARKER PAINTED BLUE
- (N19) 3M MID-RANGE MARKER #1257 PLACED AT CURB STOP



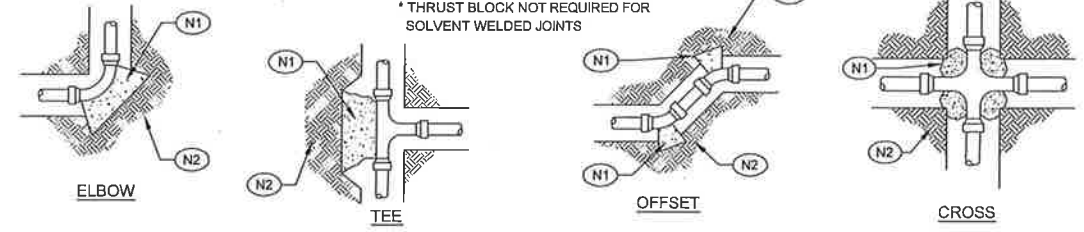
2.1 TYPICAL WATER SERVICE AND METER
SCALE: NOT TO SCALE

NOTES FOR THRUST BLOCK DETAIL

- (N1) CONCRETE THRUST BLOCK
- (N2) UNDISTURBED SOIL

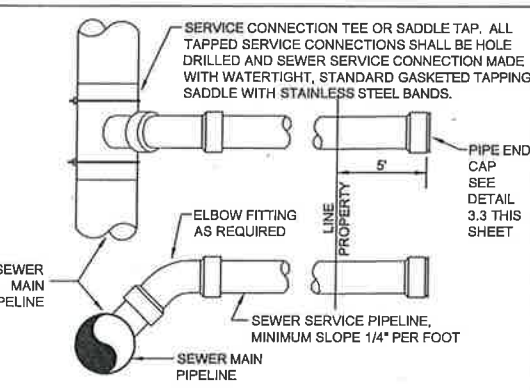
PIPE DIAMETER	MINIMUM BEARING AREA (SQ. FT.)				
	TEES AND ENDS	90° ELBOWS	45° ELBOWS	22-12° ELBOWS	11-14° ELBOWS
6"	3.0	4.0	2.5	1.5	1.0
8"	5.0	7.0	4.0	2.0	2.0
10"	8.0	11.0	6.0	3.0	2.5

* BASED ON 200 PSI LINE PRESSURE, AND FIRM SAND-CLAY SOIL
* THRUST BLOCK NOT REQUIRED FOR SOLVENT WELDED JOINTS



NOTE: CONCRETE SHALL BE PLACED TO ALLOW ACCESS TO FASTENERS USED IN CONNECTION

3.1 THRUST BLOCK DETAIL
SCALE: NOT TO SCALE



4.1 TYPICAL SEWAGE SERVICE CONNECTION
SCALE: N.T.S.

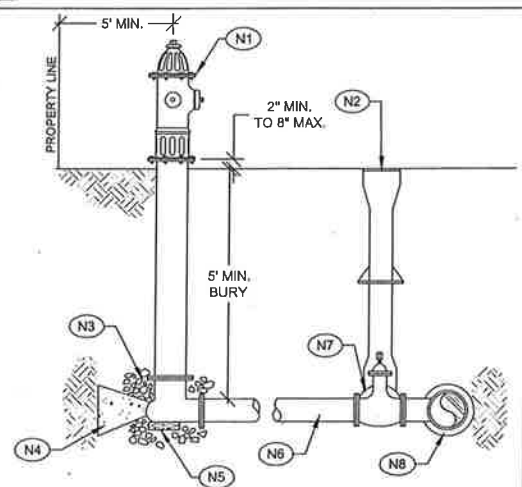
NOTES FOR FIRE HYDRANT DETAIL

- (N1) TRAFFIC TYPE FIRE HYDRANT, AWWA C502 COMPRESSION TYP. 5-1/4" VALVE OPENING. 1" PUMPER NOZZLE AND 2 HOSE NOZZLES.
- (N2) CAST IRON VALVE BOX I.F.C.O. No. 3-C, COVER No. 923-R-(A OR B) BOX AND No. 925-(A,B,C OR D) EXTENSION PIPE.
- (N3) 3/4"± DRAIN ROCK TO 6" ABOVE DRAIN PORTS, MIN. 10 CU. FT.
- (N4) THRUST BLOCK PER DETAIL 1.1, THIS SHEET.
- (N5) 2" X 8" X 8" CONCRETE BLOCK.
- (N6) 6" PVC WATER LINE
- (N7) 6" GATE VALVE W/RESILIENT WEDGE, AWWA C-509, MJ X FL
- (N8) MAIN LINE SIZED X 6" TEE - MJ X MJ X FL

NOTES:
1. CAN USE JOINT RESTRAINTS IN PLACE OF THRUST BLOCK IF VALVE IS BOLTED TO TEE AND EVERY JOINT IS RESTRAINED.
2. PROVIDE STORTZ ADAPTOR AND SNOW FLAG (SPRING STEEL MARKER FLAG 75193 (RED/WHITE REFLECTIVE) AT CONTRACTORS EXPENSE.

4.2 FIRE HYDRANT
SCALE: NOT TO SCALE

3.3 SEWER SERVICE MARKER
SCALE: N.T.S.



WATER SYSTEM CONSTRUCTION SPECIFICATIONS

DESIGN CRITERIA - WATER SYSTEM CONSTRUCTION SHALL CONFORM TO CITY OF SANDPOINT, IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION (HEREAFTER REFERRED TO AS STANDARD SPECIFICATIONS), THE IDAHO PANHANDLE HEALTH DISTRICT (PHD) REQUIREMENTS, STATE OF IDAHO STATE DIVISION OF ENVIRONMENTAL QUALITY (DEQ) REGULATIONS, AND UNIFORM PLUMBING CODE. IN THE EVENT OF CODE CONFLICT THE MORE STRINGENT CODE SHALL APPLY. ALL MATERIALS SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS LATEST EDITION, AND THE AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM), OR AS OTHERWISE SPECIFIED. MATERIAL SPECIFICATIONS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.

WATER PIPELINE - WATER DISTRIBUTION PIPELINES SHALL MEET THE REQUIREMENTS OF AWWA C900 WITH MAXIMUM DIMENSION RATIO OF 18. COUPLING JOINTS SHALL BE BELL AND SPIGOT TYPE WITH ELASTOMERIC GASKETED FITTINGS. SERVICE LINES SHALL BE POLYETHYLENE PE3408 WITH MAXIMUM DIMENSION RATIO OF 9 (200PSI).

PIPE FITTINGS - PIPE FITTINGS SHALL BE CLASS 250 MECHANICAL JOINT CEMENT MORTAR LINED CAST IRON OR DUCTILE IRON CONFORMING TO AWWA C110. END CONNECTIONS SHALL BE EITHER FLANGED OR MECHANICAL JOINT CONFORMING TO AWWA STANDARD C-111. M.J. FITTINGS SHALL CONFORM TO AWWA C111 USING TRANSITION GASKETS FOR CONNECTION TO ASTM PVC PIPE. POLYETHYLENE PIPE SHALL USE FITTINGS APPROVED FOR USE WITH THE SPECIFIC PIPE TYPE.

VALVES - GATE VALVES SHALL CONFORM TO AWWA C-509. VALVES SHALL HAVE FULLY ENCAPSULATED, RESILIENT WEDGE, USING NONRISING STEMS AND "O" RING SEALS AND ENDS AS NOTED. VALVES SHALL BE "AFCO" BRAND, OR EQUAL. VALVE BODY SHALL BE COATED WITH A FUSION-BONDED EPOXY, COATED TO A MINIMUM DRY FILM THICKNESS OF 10 MILS. VALVES SHALL INCLUDE A TWO PIECE CAST IRON VALVE BOX SUITABLE FOR THE BURIAL DEPTH REQUIRED. VALVE BOXES SHALL INCLUDE A CAP MARKED "WATER."

CURB STOPS - CURB STOPS SHALL BE 175 LB. STOP AND WASTE CURB VALVES, AND SHALL BE MUELLER MARK II ORISEAL CURB VALVE, OR EQUAL. CURB STOPS SHALL INCLUDE A PLASTIC SCREW TYPE CURB BOX WITH ARCH PATTERN BASE.

SERVICE CONNECTION - CONNECTION OF SERVICE LINE TO MAIN LINE SHALL BE MADE WITH A MAIN LINE SIZE TAPPING SADDLE. THE SADDLE SHALL BE EQUIPPED WITH DOUBLE STRAPS AND SERVICE SIZED POLYETHYLENE PACK JOINT TYPE PIPE FITTING, AND SHALL BE APPROVED BY THE MANUFACTURER OF THE TYPE OF PIPE APPLIED TO. THE PIPE SHALL BE CONNECTED IN A MANNER APPROVED BY THE MANUFACTURER OF THE PIPE AND THE SERVICE INSTALLED IN ACCORDANCE WITH ISPPWC 409.08.

FIRE HYDRANTS - FIRE HYDRANTS SHALL CONFORM TO AWWA C-502. HYDRANTS SHALL BE DRY BARREL, TRAFFIC TYPE, 5 FOOT BURY WITH (2) 2-1/2 INCH HOSE NOZZLES, (1) 4-1/2 INCH STEAMER PORT, AND 5-1/4 INCH VALVE OPENING. BURY DEPTH SHALL BE DEPTH TO FINISH GRADE PLUS 6". FIRE HYDRANT BRAND SHALL BE AS REQUIRED BY THE CITY OF SANDPOINT. EACH HYDRANT SHALL INCLUDE A TEE FOR CONNECTION TO MAIN LINE, 6" GATE VALVE WITH CAST IRON VALVE BOX, AND NECESSARY CONNECTING PIPE AS SHOWN ON THE DRAWING. FIRE HYDRANTS SHALL BE INSTALLED AS SHOWN ON ISPPWC STANDARD DRAWING NO. SD-401.

LOCATOR WIRE - A 12 GA, INSULATED, SINGLE STRAND, COPPER WIRE SHALL BE INSTALLED ADJACENT TO ALL NON-METALLIC WATER PIPES MAINS AND SERVICE LINES. THE LOCATOR WIRE SHALL ALSO BE EXTENDED UP THE VALVE BOXES AND SHALL BE PLACED ALONG THE INSIDE OF THE LOWER PORTION OF THE VALVE BOX AND ALONG THE INSIDE OF THE UPPER PORTION. ALL WIRE JOINTS SHALL BE CONNECTED WITH A CONNECTOR SEALED USING A 3M #4, SIZE A, EPOXY SEALING COMPOUND. ALL SPLICES SHALL BE ELECTRICALLY SOUND AND INSULATED TO SEAL OUT MOISTURE. WIRE SHALL BE BROUGHT TO THE SURFACE IN VALVE BOXES. LOCATOR WIRE SHALL BE TESTED FOR CONTINUITY PRIOR TO APPROVAL.

PIPE TRENCH - TRENCHING SHALL CONFORM TO THE TYPICAL TRENCH DETAIL SHOWN AND ISPPWC SECTION 301. WHEN ORGANIC OR FROZEN MATERIAL, BOULDERS, SOFT OR UNSTABLE MATERIAL, WHICH WILL NOT UNIFORMLY SUPPORT THE PIPE, ARE ENCOUNTERED, SUCH MATERIAL SHALL BE EXCAVATED TO AN ADDITIONAL DEPTH AS DIRECTED BY THE ENGINEER, AT THE CONTRACTORS' EXPENSE, AND BACKFILLED WITH TYPE II BEDDING MATERIAL.

BACKFILL AND COMPACTION - PIPE BACKFILLING SHALL COMPLY WITH ISPPWC SECTION 303. COMPACT ALL BACKFILL TO TOP OF TRENCH TO 90% DENSITY IN OPEN GROUND, AND 95% DENSITY IN ROADWAYS, IN ACCORDANCE WITH ASTM D1557, METHOD D, IN MAXIMUM NINE-INCH LOOSE LIFTS.

PIPELINE INSTALLATION - PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND ISPPWC SECTION 402. PIPE SHALL NOT BE INSTALLED UNTIL TRENCH HAS BE COMPLETELY DEWATERED BELOW THE BASE OF THE BEDDING COURSE. ALL PIPE SHALL BE LAID ON A STRAIGHT GRADE WITH NO LOCAL HIGH POINTS. WHERE LOCALIZED HIGH SPOT IN THE PIPELINE INSTALLATION IS UNAVOIDABLE AN AIR RELEASE VALVE SHALL BE INSTALLED.

PIPE BEDDING - PIPE BEDDING SHALL COMPLY WITH ISPPWC SECTION 302.02, TYPE I, OR SECTION 302.03, TYPE II.

TRENCH PROTECTION - TRENCH PROTECTION SHALL CONFORM TO ISPPWC SECTION 301.

THRUST BLOCKS - THRUST BLOCKS SHALL BE PROVIDED AT ALL ELBOWS, TEE FITTINGS AND END CAPS AS SHOWN ON THE DRAWING IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 400, ISPPWC DRAWING NO. SD-403.

4.4 SPECIFICATIONS
SCALE: N.T.S.

PRESSURE TEST - AFTER COMPLETE INSTALLATION, INCLUDING SERVICE CONNECTIONS, THE PIPELINE SHALL BE PRESSURE TESTED TO A PRESSURE OF 150 PSI MAXIMUM AT THE LOWEST POINT OF THE WATER SYSTEM. PRESSURE SHALL BE MAINTAINED FOR A MINIMUM OF 120 MINUTES OR UNTIL THE ENGINEER HAS DETERMINED THAT THE SECTION OF PIPE, VALVES AND FITTINGS ARE WATER TIGHT. IF THERE ARE NO VISIBLE LEAKS AND THE TEST PRESSURE IS MAINTAINED FOR TWO HOURS, AND THE PRESSURE DROP STABILIZES AND VARIES LESS THAN 5 PSI, THE PIPELINE WILL BE ACCEPTED AS A WATER TIGHT INSTALLATION. PRESSURE TEST SHALL CONFORM TO STANDARD SPECIFICATIONS SECTION 301.C AND ISPPWC SECTION 404.03.

DISINFECTION AND TESTING - AFTER COMPLETE INSTALLATION, INCLUDING SERVICE CONNECTIONS, ALL WATER LINES SHALL BE FLUSHED AND DISINFECTED IN ACCORDANCE WITH AWWA C801 AND ISPPWC SECTION 405 AND IDAHO DEQ REQUIREMENTS. WATER SHALL BE FED SLOWLY INTO THE LINES WITH CHLORINE APPLIED IN AMOUNTS TO PRODUCE A DOSAGE OF 50 PARTS PER MILLION. THE SOLUTION SHALL BE HELD IN THE LINES FOR A PERIOD OF AT LEAST 24 HOURS. AT THE BEGINNING OF THE CHLORINATION PROCESS, ALL VALVES AND ACCESSORIES SHALL BE OPERATED AND CHLORINE SOLUTION FLUSHED THROUGH ALL SERVICES. AFTER CHLORINATION THE WATER SHALL BE FLUSHED FROM THE LINES AT ITS EXTREMITIES UNTIL THE REPLACEMENT WATER TESTS ARE FREE FROM ALL BACTERIOLOGICAL CONTAMINATION. PRIOR TO APPROVAL FOR CONNECTION AND CONSUMER USE THE WATER SYSTEM SHALL BE TESTED FOR WATER QUALITY IN ACCORDANCE WITH DEQ REQUIREMENTS.

HORIZONTAL SEPARATION - WATER AND SEWER MAINS SHALL BE SEPARATED BY NO LESS THAN TEN (10) FEET HORIZONTAL DISTANCE, IN ACCORDANCE WITH IDAPA 16.01.8601.e AND ISPPWC 408.07. IF TEN FOOT SEPARATION CANNOT BE MAINTAINED, MAINS SHALL BE LAID TO SIX (6) FEET MINIMUM HORIZONTAL DISTANCE BETWEEN OUTER WALLS OF PIPES, WITH FOUR (4) INCH THICK CONCRETE ENCASMENT OF SEWER, OR CONSTRUCTION OF SEWER PIPELINE TO WATER MAIN STANDARDS. THE WATER MAIN SHALL BE EIGHTEEN (18) INCHES MINIMUM ABOVE THE SEWER MAIN. FOR SEPARATION REQUIREMENTS, STORM SEWERS ARE TO BE CONSIDERED THE SAME AS SANITARY SEWERS.

VERTICAL SEPARATION & CROSSINGS - NORMAL VERTICAL SEPARATION BETWEEN THE NEW WATER LINE AND ANY SEWER LINE SHALL BE EIGHTEEN (18) INCHES. IF VERTICAL SEPARATION IS LESS THAN EIGHTEEN (18) INCHES, OR WHEN IT IS NECESSARY FOR THE WATER LINE TO CROSS UNDER A SEWER LINE, THE WATER LINE OR SEWER LINE SHALL BE ENCASED IN A PVC CASING PIPE WITH TIGHT JOINTS. THE CASING PIPE SHALL EXTEND TO A POINT WHICH IS TEN (10) FEET PERPENDICULAR FROM THE CROSSED PIPE. THE PVC CASING PIPE SHALL MEET THE PRESSURE PIPE SPECIFICATIONS. THE ENDS OF THE CASING PIPE SHALL BE SEALED BY AN APPROVED SEALING METHOD.

SANITARY SEWER CONSTRUCTION SPECIFICATIONS

GENERAL - SEWER SYSTEM CONSTRUCTION SHALL CONFORM TO CITY OF SANDPOINT, IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION (HEREAFTER REFERRED TO AS STANDARD SPECIFICATIONS), THE IDAHO PANHANDLE HEALTH DISTRICT (PHD) REQUIREMENTS, STATE OF IDAHO STATE DIVISION OF ENVIRONMENTAL QUALITY (DEQ) REGULATIONS, AND UNIFORM PLUMBING CODE. IN THE EVENT OF CODE CONFLICT THE MORE STRINGENT CODE SHALL APPLY.

PIPE - GRAVITY SEWER PIPE SHALL BE ASTM D-3034 SDR35 SIZED AS SHOWN IN THE DRAWINGS

INSTALLATION - RECOMMENDED STANDARDS AND TO SECTION 502 OF THE ISPPWC, AT THE DEPTH SHOWN ON SEWER INSTALLATION SHALL CONFORM TO THE MANUFACTURER'S DRAWINGS. TRENCH SHALL BE COMPLETELY DEWATERED PRIOR TO PIPELINE INSTALLATION. GRAVITY PIPELINE SHALL BE LAID AND MAINTAINED TO THE REQUIRED LINES AND GRADES. VARIANCE FROM ESTABLISHED LINE AND GRADE IN SEWER GRAVITY LINES SHALL NOT BE GREATER THAN 1/32" PER INCH DIAMETER, NOT TO EXCEED 1/2", PROVIDED THAT SUCH VARIATION DOES NOT RESULT IN A LEVEL OR REVERSE SLOPING INVERT.

PIPE BEDDING - PIPE BEDDING SHALL CONFORM TO ISPPWC STANDARD SPECIFICATION 302.02, TYPE I, OR 302.03, TYPE II.

TRENCH PROTECTION - TRENCH PROTECTION SHALL CONFORM TO ISPPWC STANDARD SPECIFICATION 302. WHEN ORGANIC OR FROZEN MATERIAL, BOULDERS, SOFT OR UNSTABLE MATERIAL, WHICH WILL NOT UNIFORMLY SUPPORT THE PIPE, IS ENCOUNTERED, SUCH MATERIAL SHALL BE EXCAVATED TO AN ADDITIONAL DEPTH AS DIRECTED BY THE CITY PUBLIC WORKS INSPECTOR, AT THE CONTRACTOR'S EXPENSE, AND BACKFILLED WITH TYPE II BEDDING MATERIAL.

TRENCH BACKFILL - TRENCH BACKFILL SHALL COMPLY WITH ISPPWC STANDARD SPECIFICATION 304. BACKFILL IN ROADWAYS SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY, AND 90% OF MAXIMUM DENSITY ELSEWHERE, IN MAXIMUM 9" LOOSE LIFTS. MAX. DENSITY SHALL BE DETERMINED BY ASTM D1557, METHOD D.

TESTING - AFTER INSTALLATION, THE GRAVITY PIPELINE SHALL BE:
1. PRESSURE TESTED IN ACCORDANCE WITH ISPPWC 501.3.4
2. LAMP TESTED FOR HORIZONTAL AND VERTICAL ALIGNMENT
3. WASHED IN ACCORDANCE WITH ISPPWC 501.3.4
4. CLOSED CIRCUIT TELEVISION TESTED AT OWNERS EXPENSE AND IN ACCORDANCE WITH ISPPWC SECTION 501.3.4
5. MANHOLES SHALL BE VACUUM TESTED OR HYDROSTATICALLY TESTED IN ACCORDANCE WITH ISPPWC SECTION 502.3.12.

REVIEW AND APPROVAL OF CCTV OF NEW SEWER MAIN IS REQUIRED PRIOR TO ACCEPTANCE BY THE CITY OF SANDPOINT.

James A. Sewell and Associates, LLC
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SANDPOINT, IDAHO 83864
(208) 263-4160

WATER AND SEWER DETAILS AND SPECIFICATIONS
PROJECT: NORTH ADDITION TO SANDPOINT AIRPARK CITY OF SANDPOINT, IDAHO

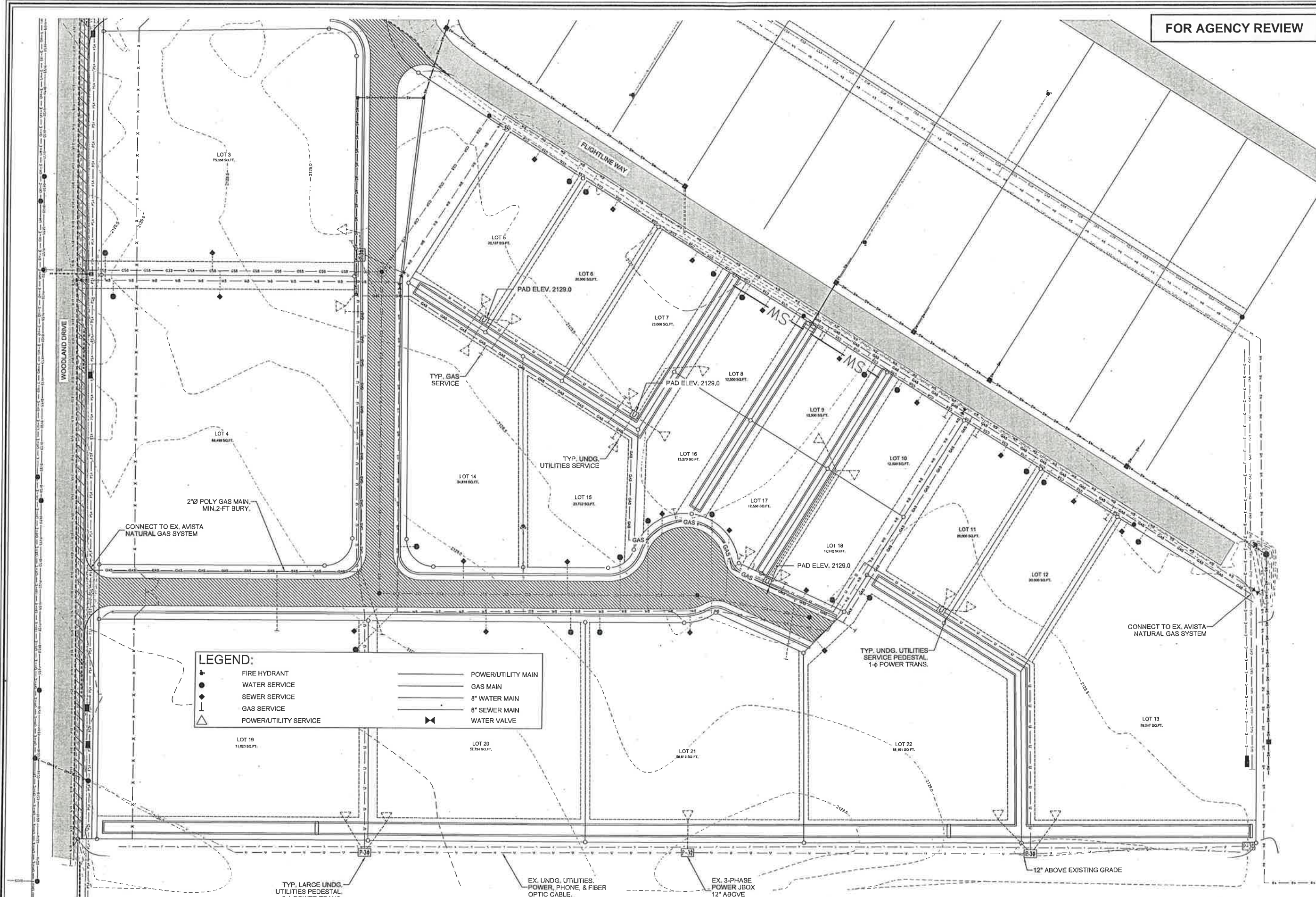
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DESIGNED: TCB
DRAWN: TCB
CHECKED: TCB
PROJ. NO.: 06122-17-001
CAD FILE: E-SPT AIRPARK

NO. 1 DATE: 2-14-2018 REVISED PER AGENCY COMMENTS REVISION: DRN/CKH

SHEET **3.5**

FOR AGENCY REVIEW

FOR AGENCY REVIEW



LEGEND:

●	FIRE HYDRANT	—	POWER/UTILITY MAIN
◆	WATER SERVICE	—	GAS MAIN
◆	SEWER SERVICE	—	8" WATER MAIN
—	GAS SERVICE	—	8" SEWER MAIN
△	POWER/UTILITY SERVICE	⌞	WATER VALVE

4.1 DRY UTILITIES PLAN
SCALE: AS SHOWN

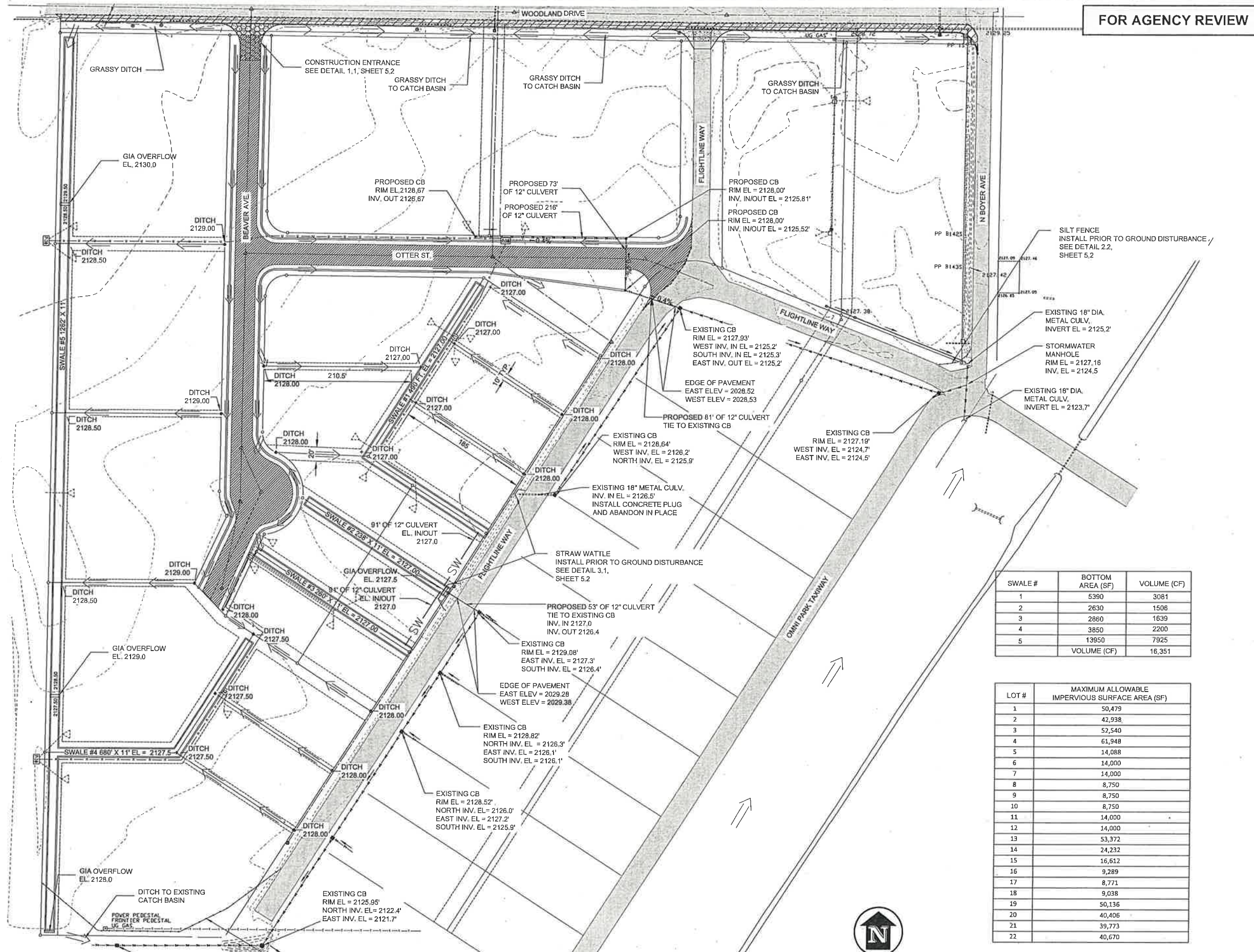
No.	DATE	REVISION	DRNCHK

James A. Sewell and Associates, LLC
1319 NORTH DIVISION
SANDPOINT, IDAHO 83864
(208) 263-4160

DRY UTILITIES PLAN
PROJECT:
NORTH ADDITION TO SANDPOINT AIRPARK
CITY OF SANDPOINT, IDAHO

SHEET TITLE:
DATE: 11-06-17
SCALE: AS SHOWN
DESIGNED: TCB
DRAWN: TCB
CHECKED: TCB
PROJ NO: 06122-17-001
CAD FILE: E-SPT AIRPARK

SHEET **4.1**



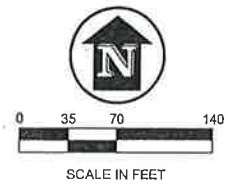
No.	DATE	REVISION	DRNCHK

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SWALE #	BOTTOM AREA (SF)	VOLUME (CF)
1	5390	3081
2	2630	1506
3	2860	1639
4	3850	2200
5	13950	7925
VOLUME (CF)		16,351

LOT #	MAXIMUM ALLOWABLE IMPERVIOUS SURFACE AREA (SF)
1	50,479
2	42,938
3	52,540
4	61,948
5	14,088
6	14,000
7	14,000
8	8,750
9	8,750
10	8,750
11	14,000
12	14,000
13	53,372
14	24,232
15	16,612
16	9,289
17	8,771
18	9,038
19	50,136
20	40,406
21	39,773
22	40,670

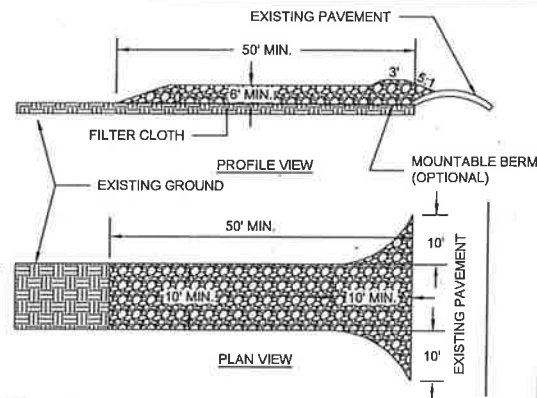
4.1 PROPOSED STORMWATER MANAGEMENT PLAN
 SCALE: AS SHOWN



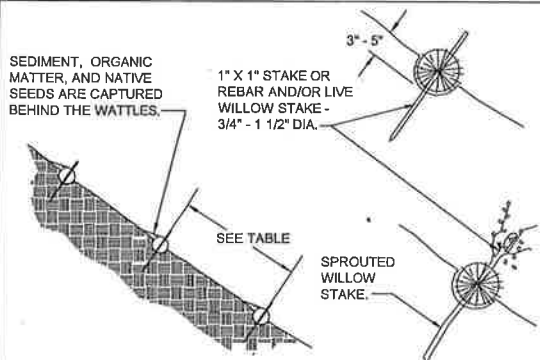
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PROJECT: NORTH ADDITION TO SANDPOINT AIRPARK CITY OF SANDPOINT, IDAHO

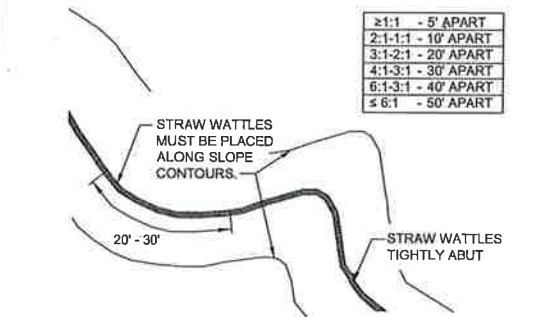
DATE: 11-06-17
 SCALE: AS SHOWN
 DESIGNED: TCB
 DRAWN: TCB
 CHECKED: TCB
 PROJ NO: 06122-17-001
 CAD FILE: E-SPT AIRPARK



1.1 CONSTRUCTION ENTRANCE
SCALE: N.T.S.

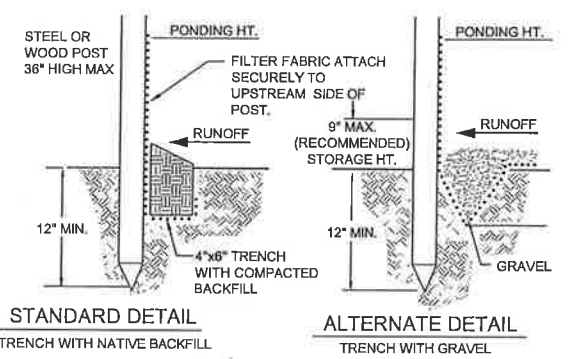


≥1:1	- 5' APART
2:1-1:1	- 10' APART
3:1-2:1	- 20' APART
4:1-3:1	- 30' APART
6:1-3:1	- 40' APART
≤ 6:1	- 50' APART



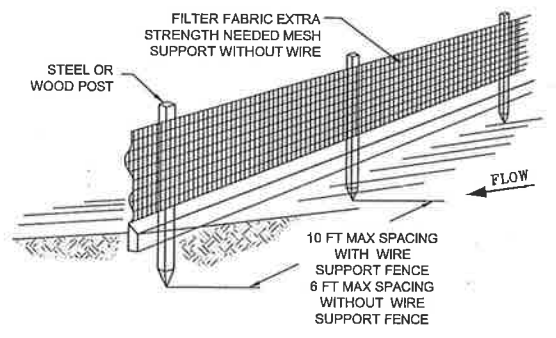
NOTES:
 1. STRAW WATTLES ARE TUBES MADE FROM STRAW BOUND W/ PLASTIC NETTING. THEY ARE APPROX. 9" DIA. AND 20-30 FT. LONG.
 2. STRAW WATTLES TRAP SEDIMENT AND REDUCE SHEET & RILL EROSION BY REDUCING SLOPE GRADIENT, INCREASING INFILTRATION RATES AND BY PRODUCING A FAVORABLE ENVIRONMENT FOR PLANT ESTABLISHMENT.
 3. STRAW WATTLE INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE WATTLE IN A TRENCH, 3"-5" DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND WATTLE.
 4. WATTLES SHALL BE PLACED EVERY 12 FEET UP OR DOWN THE SLOPE.
 5. AREAS WITH STRAW WATTLES SHALL BE SEEDED AND STRAW MULCHED IMMEDIATELY AFTER WATTLE INSTALLATION.

3.1 STRAW WATTLE
SCALE: N.T.S.



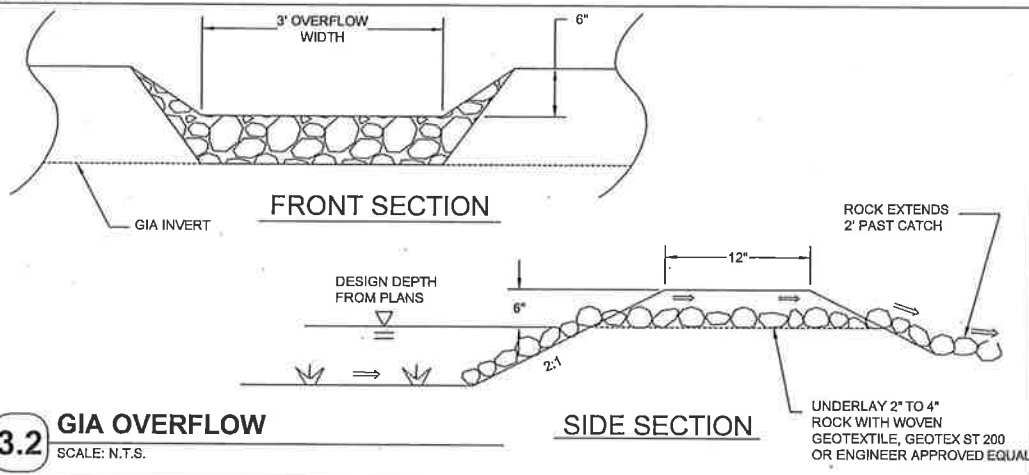
STANDARD DETAIL
TRENCH WITH NATIVE BACKFILL

ALTERNATE DETAIL
TRENCH WITH GRAVEL

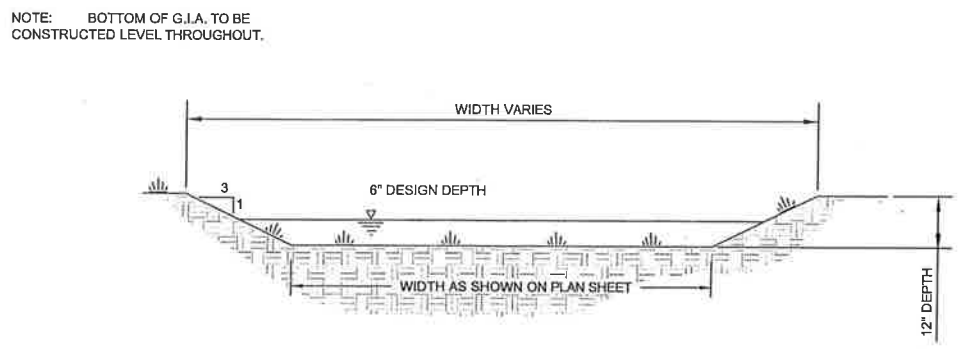


NOTE:
 1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
 2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE.
 3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

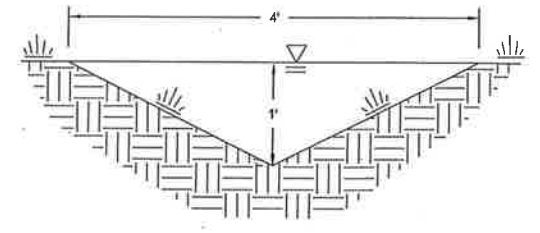
2.2 SILT FENCE
SCALE: N.T.S.



3.2 GIA OVERFLOW
SCALE: N.T.S.

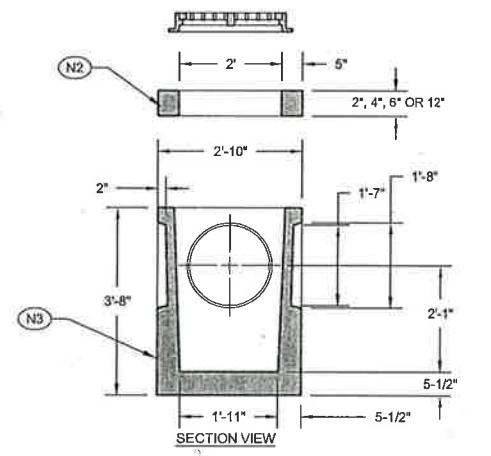
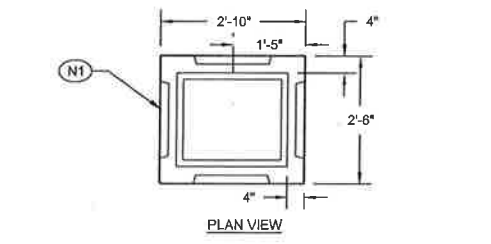


4.1 TYPICAL GRASSED INFILTRATION AREA (GIA)
SCALE: N.T.S.



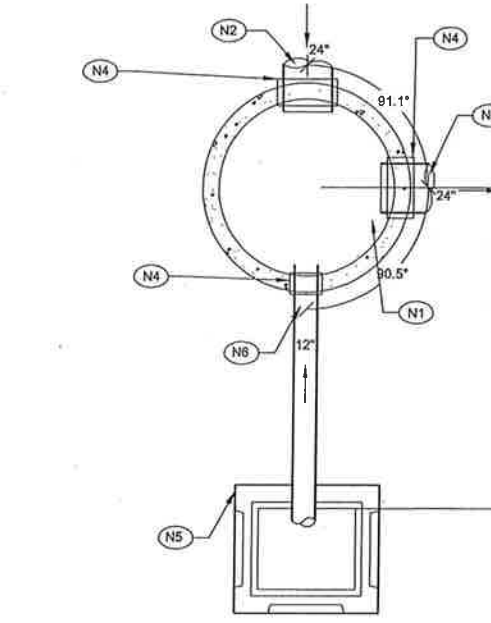
4.3 GRASSY DITCH
SCALE: N.T.S.

- (N1) WILBERT PRECAST CAST IRON INLET, PRODUCT #1230
 - (N2) RISER SECTION AS REQUIRED TO MEET GRADE
 - (N3) WILBERT PRECAST CATCH BASIN "TYPE 1", PRODUCT #1827
- NOTE:** CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C 478 AND ASTM C 890 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN SPECIFICATIONS



2.4 TYPE I CATCH BASIN DETAIL
SCALE: N.T.S.

- (N1) SLOPE INVERT CONCRETE TO CHANNEL.
- (N2) INLET EL = 2124.60, AS SHOWN ON PLANS
- (N3) OUTLET EL = 2124.88, AS SHOWN ON PLANS.
- (N4) CAST OR CORED PENETRATION WITH "KOR-N-SEAL" BOOT AND STAINLESS STEEL BANDS, TYPICAL ALL PENETRATIONS (INLETS AND OUTLETS).
- (N5) WILBERT PRECAST CATCH BASIN RIM EL = 2127.45, INV OUT EL = 2124.62 "TYPE 1", PRODUCT #1827 SEE DETAIL 2.4 THIS SHEET.
- (N6) INLET EL = 2124.60, AS SHOWN ON PLANS



4.4 CATCH BASIN AND MANHOLE DETAIL STA. 13+30.78
SCALE: N.T.S.

FOR AGENCY REVIEW

GENERAL - STORMWATER AND EROSION CONTROL SHALL CONFORM TO THE CITY OF SANDPOINT STORMWATER MANAGEMENT CODE. THE CONTRACTOR SHALL PROVIDE DUST CONTROL FOR CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL REPORT SIGNIFICANT CONFLICTS BETWEEN CONDITIONS SHOWN ON PLANS AND CONDITIONS ENCOUNTERED IN THE FIELD TO THE OWNER AND THE ENGINEER OR THE ENGINEER'S REPRESENTATIVE. THE CONTRACTOR SHALL MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS.

CONSTRUCTION STAGING - A CONSTRUCTION STAGING AREA SHALL BE DELINEATED TO LIMIT CONSTRUCTION VEHICLE DISTURBANCES.

EXCESS EXCAVATION - EXCESS EXCAVATION SHALL BE PLACED WHERE DIRECTED BY THE ENGINEER.

MATERIAL STOCK PILES - ALL ERODABLE STOCK PILED MATERIALS SHALL BE COVERED WITH TARP AND SECURED, OR THE BASE OF THE STOCK PILES SHALL BE SURROUNDED BY SILT FENCE.

GIA SEEDING - THE GIAs SHALL BE SEEDED WITH NATIVE SEED MIXTURE. RECOMMENDATIONS FOR SEEDING MIXTURE MAY BE OBTAINED FROM THE U.S.D.A. NATURAL RESOURCE CONSERVATION SERVICE, LANDSCAPE ARCHITECT OR COMMERCIALY MARKETED GRASS MIXTURE MAY BE APPLIED ACCORDING TO THE ATTACHED INSTRUCTIONS.

EROSION CONTROL - EROSION CONTROL SHALL BE MAINTAINED THROUGH THE USE OF EXISTING VEGETATION, STRAW WATTLES, AND RESEEDING OF AREAS DENUDED OF VEGETATION. STRAW WATTLES AND SILT FENCING SHALL BE PLACED AS SHOWN ON THE PLAN SET. AREAS WHERE CONSTRUCTION ACTIVITIES TEMPORARILY CEASE FOR MORE THAN 21 DAYS SHALL BE STABILIZED WITH SEEDING OR OTHER METHODS OF STABILIZATION APPROVED BY THE ENGINEER OR HIS REPRESENTATIVE. LESS THAN ONE HALF THE SITE SHALL BE DENUDED OF VEGETATION AT ANY ONE TIME. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED IN GOOD WORKING ORDER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF EROSION CONTROL MEASURES UNTIL SUCH TIME THAT FINAL STABILIZATION OF THE SITE IS COMPLETE. A CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT THE LOCATION SPECIFIED ON THE PLANS PRIOR TO ANY OTHER SITE WORK. THE CONSTRUCTION ENTRANCE SHALL CONFORM TO THE FOLLOWING STANDARDS:

1. STONE SIZE - USE 2" STONE OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - AS REQUIRED, BUT NOT LESS THAN 50 FEET.
3. THICKNESS - NOT LESS THAN 8 INCHES.
4. WIDTH - 10 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PERFORMED AFTER EACH RAIN.

- INSPECTIONS - THE CONTRACTOR SHALL INSPECT ALL STORM WATER AND EROSION CONTROL MEASURES AT LEAST ONCE EVERY 7 DAYS UNTIL SUCH TIME THAT FINAL STABILIZATION IS COMPLETE. THE FOLLOWING ITEMS SHALL BE INSPECTED:**
- STRAW WATTLES
 - DEPTH OF SEDIMENT (SEDIMENT SHALL BE REMOVED FROM REACHED 1/2 THE HEIGHT OF THE STRAW WATTLE)
 - WATTLES IN CONTACT WITH GROUND
 - STAKES FIRMLY IN GROUND
 - RESEEDING
 - BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH
 - GIAs
 - DEPTH OF SEDIMENT (SEDIMENT SHALL BE REMOVED WHEN IT REACHES 10% OF THE DESIGN CAPACITY OF THE GIA, AND/OR AT THE END OF CONSTRUCTION)

THE ENGINEER OR THE ENGINEER'S REPRESENTATIVE SHALL BE NOTIFIED 24 HOURS IN ADVANCE OF THE FOLLOWING INSTALLATIONS:

- TEMPORARY EROSION CONTROL MEASURES
 - STRAW WATTLES
 - RESEEDING
- GIAs

AFTER FINAL STABILIZATION - UPON COMPLETION OF CONSTRUCTION AND FINAL STABILIZATION, THE OWNERS SHALL TAKE RESPONSIBILITY FOR OPERATION AND MAINTENANCE OF THE STORM WATER MANAGEMENT AND EROSION CONTROL SYSTEM AS WELL AS THE FUNDING FOR THE CONTINUED MAINTENANCE OF THIS SYSTEM. AFTER FINAL STABILIZATION, THE STORM WATER MANAGEMENT AND EROSION CONTROL SYSTEM SHALL BE INSPECTED AT LEAST EVERY SIX MONTHS. THE ITEMS THAT SHALL BE INSPECTED ARE:

- RESEEDED AREAS
 - BARE SPOTS, WASHOUTS, AND HEALTHY VEGETATION GROWTH

2.2 SPECIFICATIONS
SCALE: N.T.S.

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JAS
 JAMES A. SEWELL AND ASSOCIATES, LLC

SHEET TITLE:
 STORMWATER DETAILS AND SPECIFICATIONS

PROJECT:
 NORTH ADDITION TO SANDPOINT AIRPARK
 CITY OF SANDPOINT, IDAHO

DATE: 11-06-17
SCALE: AS SHOWN
DESIGNED: TCB
DRAWN: TCB
CHECKED: TCB
PRGJ NO.: 06122-17-001
CAD FILE: E-SPT AIRPARK

SHEET 5.2